

**Report Number:** 208-TRC-03-002  
212-TRC-03-001  
301-TRC-03-001

**Safety Compliance Testing for FMVSS 208**  
**Occupant Crash Protection**

**General Motors Corporation**

**2003 Chevrolet Silverado**

**NHTSA Number: C30102**

**TRC Inc. Test Number: 021119-1**

**Transportation Research Center Inc.**

**10820 State Route 347**

**East Liberty, OH 43319**



**Report Date: Dec. 23, 2002**

**Final Report**

**Prepared For:**

**U. S. Department of Transportation**

**National Highway Traffic Safety Administration**

**Safety Assurance**

**Office of Vehicle Safety Compliance (NVS-221)**

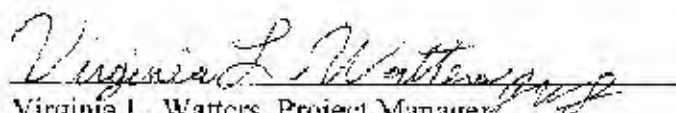
**400 Seventh Street, S.W., Room No. 6115**

**Washington, DC 20590**

This publication is distributed by the U.S. Department of Transportation, National Highway Traffic Safety Administration, in the interest of information exchange. The opinions, findings and conclusions expressed in this publication are those of the author(s) and not necessarily those of the Department of Transportation or the National Highway Traffic Safety Administration. The United States Government assumes no liability for its contents or use thereof. If trade or manufacturers' names or products are mentioned, it is only because they are considered essential to the object of the publication and should not be construed as an endorsement. The United States Government does not endorse products or manufacturers.

Test Performed By: Jason D. Jenkins, Senior Project Engineer

Report Approved By:

 Date 12/23/02  
Virginia L. Watters, Project Manager  
Transportation Research Center Inc.

Final Report Acceptance By OVSC:

\_\_\_\_\_ Date \_\_\_\_\_  
Contracting Officer's Technical Representative (COTR),  
NHTSA, Office of Vehicle Safety Compliance

1. Report No. 208-TRC-03-002 212-TRC-03-001 301-TRC-03-001	2. Government Accession No.	3. Recipient's Catalog No.	
4. Title and Subtitle Final Report of FMVSS 208 Compliance Testing of a 2003 Chevrolet Silverado NHTSA No. C30102		5. Report Date Dec. 23, 2002	6. Performing Organization Code TRC
		8. Performing Organization Report No. 021119-1	
7. Author(s) Virginia L. Walters, Project Manager Transportation Research Center Inc.		10. Work Unit No.	
9. Performing Organization Name and Address Transportation Research Center Inc. 10820 State Route 347 East Liberty, OH 43319		11. Contract or Grant No. DTNH22-02-D-08062, T.O. # VRTC-DCI/2525	
12. Sponsoring Agency Name and Address U.S. Department of Transportation National Highway Traffic Safety Administration Safety Assurance Office of Vehicle Safety Compliance (NVS-22) 400 Seventh Street, S.W., Room 6115 Washington, DC 20590		13. Type of Report and Period Covered Final Report Nov. - Dec. 2002	
		14. Sponsoring Agency Code NVS-220	
15. Supplemental Notes None			
16. Abstract  Compliance tests were conducted on a 2003 Chevrolet Silverado, NHTSA No. 30104, in accordance with the specifications of the Office of Vehicle Safety Compliance Test Procedure No. TP208-11 for the determination of FMVSS 208 compliance. Possible test failures identified were as follows:  None			
17. Key Words Compliance Testing Safety Engineering FMVSS 208		18. Distribution Statement Copies of this report are available from: NHTSA Technical Information Services (TIS) NPO-230 400 Seventh Street, S.W., Room 5108 Washington, DC 20590 Telephone: 202-366-4946	
19. Security Classif. (of this report) Unclassified	20. Security Classif. (of this page) Unclassified	21. Number of Pages 231	22. Price

## Table of Contents

<u>Section</u>	<u>Description</u>	<u>Page</u>
Section 1	Purpose of Compliance Test	1-1
Section 2	Tests Performed	2-1
Section 3	Injury Result Summary	3-1
Section 4	Discussion of Test (if applicable)	4-1
Section 5	Test Data Sheets (list each sheet in order)	5-1
Section 6	Test Data (including acceleration and load plots)	6-1
Section 7	Photographs	7-1
Appendix A	Test Equipment List and Calibration Information	A-1



### List of Data Sheets

<u>Number</u>	<u>Description</u>	<u>Page</u>
1	COTR Work Order	5-2
2	Report of Vehicle Condition	5-6
3	Certification Label and Tire Placard Information	5-8
4	Rear Outboard Seating Position Seat Belts	5-9
5	Air Bag Labels	5-10
6	FMVSS 208 Readiness Indicator	5-19
7	Passenger Manual Cut-Off Device	5-20
8	Lap Belt Lockability	5-23
9	FMVSS 208 Seat Belt Warning System Check (S7.3)	5-29
10	Belt Contact Force (S7.4.3)	5-31
11	Latchplate Access (S7.4.4)	5-37
12	Seat Belt Retraction (S7.4.5)	5-45
13	Seat Belt Guides and Hardware (S7.4.6)	5-51
26	Vehicle Weight, Fuel Tank and Attitude Data	5-54
27	Vehicle Accelerometer Locations	5-58
28	Photographic Targets	5-61
29	Camera Locations	5-67
30	Dummy Positioning Procedures for Test Dummy Conforming to Subpart E of Part 572	5-69
31	Dummy Positioning Measurements	5-77
32	Crash Test	5-83
34	Accident Investigation Measurements	5-84
35	Windshield Mounting (FMVSS 212)	5-86
36	Windshield Zone Intrusion (FMVSS 219)	5-88
37	Fuel System Integrity (FMVSS 301)	5-90

## Section 1

### Purpose of Compliance Test

## PURPOSE

This Federal Motor Vehicle Safety Standard 208 compliance test is part of a program conducted for the National Highway Traffic Safety Administration by Transportation research Center (TRC Inc.) under contract DTNH22-02-D-08062, Task Order VRTC-DCF2525. The purpose of the test was to determine whether the subject vehicle, a 2003 Chevrolet Silverado, NHTSA No. C30102, meets certain performance requirements of FMVSS 208, "Occupant Crash Protection"; FMVSS 212, "Windshield Mounting"; indicant FMVSS 219, "Windshield Zone Intrusion"; and FMVSS 301, "Fuel System Integrity". The compliance test was conducted in accordance with OVSC Laboratory Test Procedure No. TP-208-11 dated August 22, 2002.

## Section 2

### Tests Performed

## TESTS PERFORMED

The following checked items indicate the tests that were performed.

- ☒ 1. Rear outboard seating position seat belts (S4.1.4.2(b) & (S4.2.4)
- ☒ 2. Air bag labels (S4.5.1)
- ☒ 3. Readiness indicator (S4.5.2)
- ☒ 4. Passenger Air Bag Manual Cut-Off Device (S4.5.4)
- ☒ 5. Lap belt lockability (S7.1.1.5)
- ☒ 6. Seat belt warning system (S7.3)
- ☒ 7. Seat belt contact force (S7.4.3)
- ☒ 8. Seat belt latch plate access (S7.4.4)
- ☒ 9. Seat belt retraction (S7.4.5)
- ☒ 10. Seat belt guides and hardware (S7.4.6)
- ☐ 11. Suppression tests with 12-month-old CRABI dummy (Part 572, Subpart N)
- ☐ 12. Suppression tests with Newborn infant Subpart K dummy (Part 572, Subpart N)
- ☐ 13. Suppression tests with 3-year-old dummy (Part 572, Subpart P)
- ☐ 14. Suppression tests with 6-year-old dummy (Part 572, Subpart R)
- ☐ 15. Test of Reactivation of the passenger Air Bag system with an Unbelted 5<sup>th</sup> Percentile female dummy
- ☐ 16. Low risk deployment test with 12-month-old dummy (Part 572, Subpart N)
- ☐ 17. Low risk deployment test with 3-year-old dummy (Part 572, Subpart P)
- ☐ 18. Low risk deployment test with 6-year-old dummy (Part 572, Subpart R)
- ☐ 19. Low risk deployment test with 5<sup>th</sup> female dummy (Part 572, Subpart O)
- ☒ 20. Impact tests
  - ☐ Frontal Oblique
    - ☐ Belted 50<sup>th</sup> male dummy driver and passenger (0 to 48 km/h) (S5.1.1(a))
    - ☐ Unbelted 50<sup>th</sup> male dummy driver and passenger (0 to 48 km/h) (S5.1.2(a)(1))
    - ☐ Unbelted 50<sup>th</sup> male dummy driver and passenger (32 to 40 km/h) (S5.1.2(a)(1) or S5.1.2(b))
  - ☒ Frontal 0°
    - ☐ Belted 50<sup>th</sup> male dummy driver (0 to 48 km/h) (S5.1.1(b)(1) or S5.1.1(a))
    - ☐ Belted 50<sup>th</sup> male dummy passenger (0 to 48 km/h) (S5.1.1(b)(1) or S5.1.1(a))
    - ☐ Belted 5<sup>th</sup> female dummy driver (0 to 48 km/h) (S16.1(a))
    - ☐ Belted 5<sup>th</sup> female dummy passenger (0 to 48 km/h) (S16.1(a))
    - ☐ Belted 50<sup>th</sup> male dummy driver and passenger (0 to 56 km/h) (S5.1.1(b)(2))
    - ☐ Unbelted 50<sup>th</sup> male dummy driver and passenger (0 to 48 km/h) (S5.1.2(a)(1))
    - ☒ Unbelted 50<sup>th</sup> male dummy driver (32 to 40 km/h) (S5.1.2(a)(2) or S5.1.2(b))
    - ☒ Unbelted 50<sup>th</sup> male dummy passenger (32 to 40 km/h) (S5.1.2(a)(2) or S5.1.2(b))
    - ☐ Unbelted 5<sup>th</sup> female dummy driver (32 to 40 km/h) (S16.1(b))

- \_\_\_\_\_ Unbelted 5th female dummy passenger (32 to 40 km/h) (S16.1(b))
- \_\_\_\_\_ 40% Offset 0° Belted 5<sup>th</sup> female dummy driver and passenger (0 to 40 km/h) (S18.1)
- \_\_\_\_\_ 21. Sled test: Unbelted 50th male dummy driver and passenger (S13)
- \_\_\_\_\_ 22. FMVSS 204 indicant test
- X   23. FMVSS 212 test
- X   24. FMVSS 219 indicant test
- X   25. FMVSS 301 frontal test

For the crash tests, the vehicle was instrumented with 8 accelerometers. The accelerometer data from the vehicle and dummies were sampled at 12,500 samples per second and processed as specified in SAE J211/1 MAR95 and FMVSS 208, S4.13.

The dynamic tests were recorded using high speed film and digital motion picture cameras.

The vehicle appears to meet the performance requirements to which it was tested.

### Section 3

#### Injury Result Summary

# INJURY RESULT SUMMARY FOR CRASH TESTS AND/OR LOW RISK DEPLOYMENT TESTS

NHTSA No.: C30102

Test Date: 11/19/02

VIN: 1GCEC14X13Z131545

Frontal Crash ☒ Offset Crash ☐ Low Risk Deployment ☐

Impact Angle: 0

Belted Dummies: ☐ Yes ☒ No

Speed Range: ☒ 32 to 40 km/h ☐ 0 to 48 km/h ☐ 0 to 56 km/h

Test Speed: 39.2 km/h

Driver Dummy: ☐ 5<sup>th</sup> female ☒ 50<sup>th</sup> male

Passenger Dummy: ☐ 5<sup>th</sup> female ☒ 50<sup>th</sup> male

Test weight: 2295.7 kg

## 50<sup>th</sup> Percentile Male Frontal Crash Test

Vehicles certified to S5.1.1(b)(1), S5.1.1(b)(2), S5.1.2(a)(2), or S5.1.2(b)

Injury Criteria	Max. Allowable Injury Assessment Values	Driver	Passenger
HIC15	700	132	94
N <sub>te</sub>	1.0	0.40	0.34
N <sub>tr</sub>	1.0	0.35	0.32
N <sub>ce</sub>	1.0	0.12	0.06
N <sub>cl</sub>	1.0	0.06	0.11
Neck tension	4170 N	2068	1495
Neck compression	4000 N	282	318
Chest g	60 g	47.3	41.1
Chest displacement	63 mm	33	14
Left femur	10,000 N	6433	6773
Right femur	10,000 N	7643	6915



## Section 4

### Discussion of Test

## DISCUSSION OF TEST

The engine top X-axis acceleration data channel exceeded the data channel's full scale at 61 milliseconds and did not record valid data after 61 milliseconds.

The vehicle's pre-test attitudes did not fall between the measured attitudes for the delivered and fully-loaded conditions. Deviations were 6 mm or less.

The left side (B-post view and rear pit fuel tank view) cameras ran too slowly to determine the actual film speed.

The left side (barrier to front seat back, front door, B-post, and steering wheel views) and front pit (engine view) cameras ran at less than 1000 frames per second.

TRC Inc. used the method of topping off the fuel (gasoline) for determining the fully loaded weight and then drained all the fuel and filled the fuel tank to 94% capacity with Stoddard solvent.

The test dummies were not maintained in the required temperature soak of 20.6 to 22.2 C for the full sixteen hours. See temperature data on page 6-56.

## Section 5

### Test Data Sheets

**DATA SHEET 1**  
**COTR Vehicle Work Order**

Vehicle model year, make, and model: 2003 Chevrolet Silverado

NHTSA No.: C30102

Test Date: 11/14/02

COTR signature: Charles R. Case

Tests to be performed for this vehicle are checked below

- ☒ 1. Rear outboard seating position seat belts (S4.1.4 2(b) & (S4.2.1)
- ☒ 2. Air bag labels (S4.5.1)
- ☒ 3. Readiness indicator (S4.5.2)
- ☒ 4. Passenger air bag manual cut-off device (S4.5.4)
- ☒ 5. Lap belt lockability (S7.1.1.5)
- ☒ 6. Seat belt warning system (S7.3)
- ☒ 7. Seat belt contact force (S7.4.3)
- ☒ 8. Seat belt latch plate access (S7.4.4)
- ☒ 9. Seat belt retraction (S7.4.5)
- ☒ 10. Seat belt guides and hardware (S7.4.6)
- ☐ 11. Suppression tests with 12-month-old CRABI dummy (Part 572, Subpart R) using the following indicated child restraints.

**Section A**

☐ Cosco Dream Ride 02-719 ☐ Full rearward ☐ Midposition ☐ Full forward

**Section B**

☐ Britax Handle with Care 191 ☐ Full rearward ☐ Midposition ☐ Full forward

☐ Century Assura 4553 ☐ Full rearward ☐ Midposition ☐ Full forward

☐ Century Avanta SE 41530 ☐ Full rearward ☐ Midposition ☐ Full forward

☐ Century Smart Fir 4543 ☐ Full rearward ☐ Midposition ☐ Full forward

☐ Cosco Amara 62727 ☐ Full rearward ☐ Midposition ☐ Full forward

☐ Cosco Opus 35 02603 ☐ Full rearward ☐ Midposition ☐ Full forward

☐ Evenflo Discovery Adjust Right 212 ☐ Full rearward ☐ Midposition ☐ Full forward

☐ Evenflo First Choice 204 ☐ Full rearward ☐ Midposition ☐ Full forward

☐ Evenflo On My Way Position Right V 282 ☐ Full rearward ☐ Mid position ☐ Full forward

☐ Graco Infant 8457 ☐ Full rearward ☐ Midposition ☐ Full forward

**Section C**

☐ Britax Roundabout 161 ☐ Full rearward ☐ Midposition ☐ Full forward

☐ Century Encore 4612 ☐ Full rearward ☐ Midposition ☐ Full forward

☐ Century STE 1000 4416 ☐ Full rearward ☐ Midposition ☐ Full forward

☐ Cosco Olympian 02803 ☐ Full rearward ☐ Midposition ☐ Full forward

☐ Cosco Touriva 02519 ☐ Full rearward ☐ Midposition ☐ Full forward

☐ Evenflo Horizon V 425 ☐ Full rearward ☐ Midposition ☐ Full forward

☐ Evenflo Medallion 254 ☐ Full rearward ☐ Midposition ☐ Full forward

- ☐ 12. Suppression tests with 3-year-old dummy (Part 572, Subpart F) using the following indicated child restraints where a child restraint is required.

**Section C**

☐ Britax Roundabout 161 ☐ Full rearward ☐ Midposition ☐ Full forward

☐ Century Encore 4612 ☐ Full rearward ☐ Midposition ☐ Full forward

☐ Century STE 1000 4416 ☐ Full rearward ☐ Midposition ☐ Full forward

☐ Cosco Olympian 02803 ☐ Full rearward ☐ Midposition ☐ Full forward

☐ Cosco Touriva 02519 ☐ Full rearward ☐ Midposition ☐ Full forward

☐ Evenflo Horizon V 425 ☐ Full rearward ☐ Midposition ☐ Full forward

☐ Evenflo Medallion 254 ☐ Full rearward ☐ Midposition ☐ Full forward

**Section D**

☐ Britax Roadster 9004 ☐ Full rearward ☐ Midposition ☐ Full forward

☐ Century Next Step 4926 ☐ Full rearward ☐ Midposition ☐ Full forward

- ☐ Cosco High Back Booster 02-442 ☐ Full rearward ☐ Midposition ☐ Full forward  
☐ Evenflo Right Fit 245 ☐ Full rearward ☐ Midposition ☐ Full forward  
 13. Suppression tests with Representative 3 year old child using the following indicated child restraints where a child restraint is required. (Laboratory Test Procedure Appendix II, Data Sheet 16T1 and 17H)

Section C

- ☐ Britax Roundabout 161 ☐ Full rearward ☐ Midposition ☐ Full forward  
☐ Century Lifeore 4612 ☐ Full rearward ☐ Midposition ☐ Full forward  
☐ Century STE 1090 4416 ☐ Full rearward ☐ Midposition ☐ Full forward  
☐ Cosco Olympia 02803 ☐ Full rearward ☐ Midposition ☐ Full forward  
☐ Cosco Touriva 02519 ☐ Full rearward ☐ Midposition ☐ Full forward  
☐ Evenflo Horizon V 425 ☐ Full rearward ☐ Midposition ☐ Full forward  
☐ Evenflo Medallion 254 ☐ Full rearward ☐ Midposition ☐ Full forward

Section D

- ☐ Britax Roadster 9004 ☐ Full rearward ☐ Midposition ☐ Full forward  
☐ Century Next Step 4920 ☐ Full rearward ☐ Midposition ☐ Full forward  
☐ Cosco High Back Booster 02-442 ☐ Full rearward ☐ Midposition ☐ Full forward  
☐ Evenflo Right Fit 245 ☐ Full rearward ☐ Midposition ☐ Full forward

14. Suppression tests with 3-year-old dummy (Part 572, Subpart P) in the following positions

- ☐ Sitting on seat with back against seat back (S22.2.2.1)  
☐ Sitting on seat with back against reclined seat back (S22.2.2.2)  
☐ Sitting on seat with back not against seat back (S22.2.2.3)  
☐ Sitting on seat edge, spine vertical, hands by the child's side (S22.2.2.4)  
☐ Standing on seat, facing forward (S22.2.2.5)  
☐ Kneeling on seat facing forward (S22.2.2.6)  
☐ Kneeling on seat facing rearward (S22.2.2.7)  
☐ Lying on seat (S22.2.2.8)

15. Suppression tests with representative 3-year-old child in the following positions

- ☐ Sitting on seat with back against seat back (S22.2.2.1)  
☐ Sitting on seat with back against reclined seat back (S22.2.2.2)  
☐ Sitting on seat with back not against seat back (S22.2.2.3)  
☐ Sitting on seat edge, spine vertical, hands by the child's side (S22.2.2.4)  
☐ Standing on seat, facing forward (S22.2.2.5)  
☐ Kneeling on seat facing forward (S22.2.2.6)  
☐ Kneeling on seat facing rearward (S22.2.2.7)  
☐ Lying on seat (S22.2.2.8)

16. Suppression tests with 6-year-old dummy (Part 572, Subpart N) using the following indicated child restraints where a child restraint is required.

Section D

- ☐ Britax Roadster 9004 ☐ Full rearward ☐ Midposition ☐ Full forward  
☐ Century Next Step 4920 ☐ Full rearward ☐ Midposition ☐ Full forward  
☐ Cosco High Back Booster 02-442 ☐ Full rearward ☐ Midposition ☐ Full forward  
☐ Evenflo Right Fit 245 ☐ Full rearward ☐ Midposition ☐ Full forward

17. Suppression tests with representative 6-year-old child using the following indicated child restraints where a child restraint is required.

Section D

- ☐ Britax Roadster 9004 ☐ Full rearward ☐ Midposition ☐ Full forward  
☐ Century Next Step 4920 ☐ Full rearward ☐ Midposition ☐ Full forward  
☐ Cosco High Back Booster 02-442 ☐ Full rearward ☐ Midposition ☐ Full forward  
☐ Evenflo Right Fit 245 ☐ Full rearward ☐ Midposition ☐ Full forward

18. Suppression tests with 6 year old dummy (Part 572, Subpart N) in the following positions

- ☐ Sitting on seat with back against seat back (S22.2.2.1)  
☐ Sitting on seat with back against reclined seat back (S22.2.2.2)  
☐ Sitting on seat edge, spine vertical, hands by the dummy's side (S22.2.2.4)  
☐ Sitting back in the seat and leaning on the right front passenger door (S24.2.3)

- \_\_\_\_ 19. Suppression tests with representative 6-year-old child in the following positions:
- \_\_\_\_ Sitting on seat with back against seat back (S22.2.2.1)
  - \_\_\_\_ Sitting on seat with back against reclined seat back (S22.2.2.2)
  - \_\_\_\_ Sitting on seat edge, spine vertical, hands by the dummy's side (S22.2.2.4)
  - \_\_\_\_ Sitting back in the seat and leaning on the right front passenger door (S24.2.3)
- \_\_\_\_ 20. Low risk deployment test with 12-month-old dummy (Part 572, Subpart R) using the following indicated child restraints:

Section B

____ Britax Handle with Care 191	____ Full rearward	____ Midposition	____ Full forward
____ Century Assura 4553	____ Full rearward	____ Midposition	____ Full forward
____ Century Avanta SL 41530	____ Full rearward	____ Midposition	____ Full forward
____ Century Smart Fit 4543	____ Full rearward	____ Midposition	____ Full forward
____ Cosco Arriva 02727	____ Full rearward	____ Midposition	____ Full forward
____ Cosco Opus 35 02603	____ Full rearward	____ Midposition	____ Full forward
____ Evenflo Discovery Adjust Right 212	____ Full rearward	____ Midposition	____ Full forward
____ Evenflo First Choice 204	____ Full rearward	____ Midposition	____ Full forward
____ Evenflo On My Way Position Right V 282	____ Full rearward	____ Mid position	____ Full forward
____ Graco Infant 8457	____ Full rearward	____ Midposition	____ Full forward

Section C

____ Britax Roundabout 161	____ Full rearward	____ Midposition	____ Full forward
____ Century Linacre 4612	____ Full rearward	____ Midposition	____ Full forward
____ Century STE 1000 44 6	____ Full rearward	____ Midposition	____ Full forward
____ Cosco Olympian 02803	____ Full rearward	____ Midposition	____ Full forward
____ Cosco Touriva 02519	____ Full rearward	____ Midposition	____ Full forward
____ Evenflo Horizon V 425	____ Full rearward	____ Midposition	____ Full forward
____ Evenflo Medallion 254	____ Full rearward	____ Midposition	____ Full forward

- \_\_\_\_ 21. Test of Reactivation of the Passenger Air Bag System with an Unbelled 5th Percentile Female Dummy (S20.3, 22.3, S24.3) Perform this test after the following suppression test(s): \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_

- \_\_\_\_ 22. Test of Reactivation of the Passenger Air Bag System with a representative 5th Percentile Female (S20.3, 22.3, S24.3) Perform this test after the following suppression test(s): \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_

- \_\_\_\_ 23. Low risk deployment test with 3-year-old dummy (Part 572, Subpart P) in the following positions:
- \_\_\_\_ Position 1
  - \_\_\_\_ Position 2

- \_\_\_\_ 24. Low risk deployment test with 6-year-old dummy (Part 572, Subpart N) in the following positions:
- \_\_\_\_ Position 1
  - \_\_\_\_ Position 2

- \_\_\_\_ 25. Low risk deployment test with 5th female dummy (Part 572, Subpart C) in the following positions:
- \_\_\_\_ Position 1
  - \_\_\_\_ Position 2

X 26. Impact tests

- \_\_\_\_ Frontal Oblique Test Speed \_\_\_\_\_
- \_\_\_\_ Belted 50th male dummy driver and passenger (0 to 48 km/h) (S5.1.1.(a))
  - \_\_\_\_ Unbelted 50th male dummy driver and passenger (0 to 48 km/h) (S5.1.2(a)(1))
  - \_\_\_\_ Unbelted 50th male dummy driver and passenger (32 to 40 km/h) (S5.1.2(a)(1) or S5.1.2(b))
- X Frontal Test Speed 40 km/h see test procedure for speed tolerance
- \_\_\_\_ Belted 50th male dummy driver (0 to 48 km/h) (S5.1.1(b)(1) or S5.1.1(a))
  - \_\_\_\_ Belted 50th male dummy passenger (0 to 48 km/h) (S5.1.1(b)(1) or S5.1.1(a))
  - \_\_\_\_ Belted 5th female dummy driver (0 to 48 km/h) (S16.1(a))
  - \_\_\_\_ Belted 5th female dummy passenger (0 to 48 km/h) (S16.1(a))
  - \_\_\_\_ Belted 50th male dummy driver and passenger (0 to 36 km/h) (S5.1.1(b)(2))
  - \_\_\_\_ Unbelted 50th male dummy driver and passenger (0 to 48 km/h) (S5.1.2(a)(1))

- ☒ Unbelted 50th male dummy driver (32 to 40 km/h) (S5.1.2(a)(2) or S5.1.2(b))
- ☒ Unbelted 50th male dummy passenger (32 to 40 km/h) (S5.1.2(a)(2) or S5.1.2(b))
- ☐ Unbelted 5th female dummy driver (32 to 40 km/h) (S16.1(b))
- ☐ Unbelted 5th female dummy passenger (32 to 40 km/h) (S16.1(b))
- ☐ 10% Offset 0+ Belted 5th female dummy driver and passenger (0 to 40 km/h) (S18.1)
- Test Speed \_\_\_\_\_
- ☐ 27. Sled test: Unbelted 50th male dummy driver and passenger (S13)
- ☐ 28. FMVSS 204 indicant test
- ☒ 29. FMVSS 212 test
- ☒ 30. FMVSS 219 indicant test
- ☒ 31. FMVSS 301 frontal test

# DATA SHEET 2

Page 1 of 2

## REPORT OF VEHICLE CONDITION

CONTRACT NO. DTNH22-02-D-08062 Date: 11/19/02  
 FROM: Transportation Research Center, Virginia L. Walters  
 Lab & rep name  
 TO: Charles R. Case OVSC, NSA-31  
 COTR Name  
 PURPOSE: ( ) Initial Receipt ( ) Received via Transfer (X) Present vehicle condition  
 MODEL YEAR/MAKE/MODEL/BODY STYLE: 2003/Chevrolet/Silverado/pickup truck  
 MANUFACTURE DATE: 08/02 NHTSA NO.: C30102 BODY COLOR: Gray  
 VIN: 1GC8C14X13Z131545 GVWR 2904 GAWR (Fr) 1429 GAWR (Rr) 1672  
 ODOMETER READINGS: ARRIVAL 71 miles DATE 11/14/02  
 COMPLETION 71 miles DATE 11/19/02  
 PURCHASE PRICE: \$ 20,271 DEALER'S NAME: Bvers Downtown Chevrolet

- A. All options listed on "window sticker" are present on the test vehicle.  
☒ Yes ☐ No
- B. Tires and wheel rims are new and the same as listed.  
☒ Yes ☐ No
- C. There are no dents or other interior or exterior flaws.  
☐ Yes ☒ No See remarks
- D. The vehicle has been properly prepared and is in running condition.  
☐ Yes ☒ No See remarks
- E. Keyless remote is available and working.  
☐ Yes ☒ No
- F. The glove box contains an owner's manual, warranty document, consumer information, and extra set of keys.  
☐ Yes ☒ No
- G. Proper fuel filler cap is supplied on the test vehicle.  
☒ Yes ☐ No
- H. Using permanent marker, identify vehicle with NHTSA number and FMVSS test type(s) on roof line above driver door or for school buses, place a placard with NHTSA number inside the windshield and to the exterior front and rear side of bus.  
☒ Yes ☐ No
- I. Place vehicle in storage area.  
☒ Yes ☐ No
- J. Inspect the vehicle's interior and exterior, including all windows, seats, doors, etc., to confirm that each system is complete and functional per the manufacturer's specifications. Any damage, misadjustment, or other unusual condition that could influence the test program or test results shall be recorded. Report any abnormal condition to the NHTSA COTR before beginning any test.  
☒ Vehicle OK ☐ Conditions reported below in comment section  
☐ N/A Post-Test Condition

Identify the letter above to which any of the following comments apply.

Comments: In a frontal impact the vehicle sustained significant front end and unknown structural damage.



**DATA SHEET 2**

Page 2 of 2

**REPORT OF VEHICLE CONDITION AT THE COMPLETION OF TESTING**

LIST OF FMVSS TESTS PERFORMED BY THIS LAB:

208, 212, 219 Indicanl, 301

MODEL YEAR/MAKE/MODEL/BODY STYLE: 2003/Chevrolet/Silverado/pickup truck

NHTSA NO. C30102

REMARKS: None

Equipment that is no longer on the test vehicle as noted on previous page: None

Explanation for equipment removal: The owner's manual and extra keys are stored with the project file.

Test Vehicle Condition: In a frontal impact the vehicle sustained significant front end and unknown structural damage.

RECORDED BY: R. Benavides

DATE: 11/14/02

APPROVED BY: V. Walters

DATE: 12/9/02

#####

**RELEASE OF TEST VEHICLE**

The vehicle described above is released from TRC Inc. to be delivered to \_\_\_\_\_  
(Laboratory) (Laboratory)

Date: \_\_\_\_\_ Time: \_\_\_\_\_ Odometer: \_\_\_\_\_

Lab Representative: \_\_\_\_\_  
Signature Title

Carrier/Customer Representative: \_\_\_\_\_  
Signature Date

**DATA SHEET 3**  
Certification Label and Tire Placard Information

NHTSA No.: C30102

Test Date: 11/14/02

Laboratory: TRC Inc.

Test Technician(s): R. Benavides

1. Certification Label

Manufacturer General Motors Corporation

Date of Manufacture 08/02

VIN 1GCEC14X13Z131545

Vehicle certified as:      Passenger car      MPV   X   Truck      Bus

Front axle GVWR 1429 kg/3150 lbs.

Rear axle GVWR 1672 kg/3686 lbs.

Total GVWR 2903 kg/6400 lbs.

2. Tire Placard

     N/A – Vehicle is not a passenger car and does not have a tire placard.

  X   This is not a passenger car (see the item 1 above), but all or part of this information is still contained on a vehicle label and is reported here

Vehicle Capacity Weight NA<sup>1</sup>

Designated seating capacity front NA<sup>1</sup>

Designated seating capacity rear NA<sup>1</sup>

Total Designated seating capacity NA<sup>1</sup>

Recommended cold tire inflation pressure front 240 kPa/35 psi

Recommended cold tire inflation pressure rear 240 kPa/35 psi

Recommended tire size P235/75R16

<sup>1</sup> Label did not contain this information

**DATA SHEET 4**  
**REAR OUTBOARD SEATING POSITION SEAT BELTS**

NHTSA No.: C30102

Test Date: 11/14/02

Laboratory: TRC Inc.

Test Technician(s): R. Benavides

Do all rear outboard seating positions have type 2 seat belts? Yes \_\_\_\_; No X

If NO, describe the seat belt installed, the seat location, and any other information about the seat that would explain why a type 2 seat belt was not installed.

No rear seats.

REMARKS:

**DATA SHEET 5**  
**AIR BAG LABELS (S4.5.1)**

NHTSA No.: C30102

Test Date: 11/14/02

Laboratory: TRC Inc.

Test Technician(s): R. Benavides

1. **Air Bag Maintenance Label and Owner's Manual Instructions: (S4.5.1(a))**
- 1.1 Does the manufacturer recommend periodic maintenance or replacement of the air bag?  
     Yes (Go to 1.2);   X   No (Go to 2)
- 1.2 Does the vehicle have a label specifying air bag maintenance or replacement?  
     Yes-Pass;      No-FAIL
- 1.3 Does the label contain one of the following?  
     Yes-Pass;      No-FAIL  
Check applicable schedule  
     Schedule on label specifies month and year (Record date           )  
     Schedule on label specifies vehicle mileage (Record mileage           )  
     Schedule on label specifies interval measured from date on certification label  
      (Record interval           )
- 1.4 Is the label permanently affixed within the passenger compartment such that it cannot be removed without destroying or defacing the label or the supervisor?  
     Yes-Pass;      No-FAIL
- 1.5 Is the label lettered in English?  
     Yes-Pass;      No-FAIL
- 1.6 Is the label in block capitals and numerals?  
     Yes-Pass;      No-FAIL
- 1.7 Are the letters and numerals at least 3/32 inches high?  
      height of letters and numerals  
     Yes-Pass;      No-FAIL
- 1.8 Does the owner's manual set forth the recommended schedule for maintenance or replacement?      Yes-Pass;      No-FAIL
2. **Does the owner's manual: (S4.5.1(f))**
- 2.1 Include a description of the vehicle's air bag system in an easily understandable format?  
  X   Yes-Pass;      No-FAIL
- 2.2 Include a statement that the vehicle is equipped with an air bag and a lap/shoulder belt at the front outboard seating positions?  
  X   Yes-Pass;      No-FAIL
- 2.3 Include a statement that the air bag is a supplemental restraint at the front outboard seating positions?  
  X   Yes-Pass;      No-FAIL
- 2.4 Emphasize that all occupants, including the driver, should always wear their seat belts whether or not an air bag is also provided at their seating positions to minimize the risk of severe injury or death in the event of a crash?  
  X   Yes-Pass;      No-FAIL
- 2.5 Provide any necessary precautions regarding the proper positioning of occupants, including children, at seating positions equipped with air bags to ensure maximum safety protection for those occupants?  
  X   Yes-Pass;      No-FAIL
- 2.6 Explain that no objects should be placed over or near the air bag on the steering wheel or on the instrument panel, because any such objects could cause harm if the vehicle is in a crash severe enough to cause the air bag to inflate?

- X Yes-Pass;           No-FAIL
- 2.7 Is the vehicle certified to meet the requirements of S14.5, S15, S17, S19, S21, S23, and S25? (Obtain the answer to this question from the COTR.) (S4.5.1(f)(2))  
X Yes (go to 2.7.1);      No (go to 3)
- 2.7.1 Explain the proper functioning of the advanced air bag system? (S4.5.1(f)(2))  
X Yes-Pass;           No-FAIL
- 2.7.2 Provide a summary of the actions that may affect the proper functioning of the system? (S4.5.1(f)(2))  
X Yes-Pass;           No-FAIL
- 2.7.3 Present and explain the main components of the advanced passenger air bag system? (S4.5.1(f)(2)(i))  
X Yes-Pass;           No-FAIL
- 2.7.4 Explain how the components function together as part of the advanced passenger air bag system? (S4.5.1(f)(2)(ii))  
X Yes-Pass;           No-FAIL
- 2.7.5 Contain the basic requirements for proper operation, including an explanation of the actions that may affect the proper functioning of the system? (S4.5.1(f)(2)(iii))  
X Yes-Pass;           No-FAIL
- 2.7.6 Is the vehicle certified to the requirements of S19.2, S21.2 or S23.2?  
X Yes, continue with 2.7.6  
     No, go to 2.7.7
- 2.7.6.1 Contain a complete description of the passenger air bag suppression system installed in the vehicle, including a discussion of any suppression zone? (S4.5.1(f)(2)(iv))  
X Yes-Pass;           No-FAIL
- 2.7.6.2 Discuss the telltale light, specifying its location in the vehicle and explaining when the light is illuminated?  
X Yes-Pass;           No-FAIL
- 2.7.7 Explain the interaction of the advanced passenger air bag system with other vehicle components, such as seat belts, seats or other components? (S4.5.1(f)(2)(v))  
X Yes-Pass;           No-FAIL
- 2.7.8 Summarize the expected outcomes when child restraint systems, children and small teenagers or adults are both properly and improperly positioned in the passenger seat, including cautionary advice against improper placement of child restraint systems? (S4.5.1(f)(2)(vi))  
X Yes-Pass;           No-FAIL
- 2.7.9 Provide information on how to contact the vehicle manufacturer concerning modifications for persons with disabilities that may affect the advanced air bag system? (S4.5.1(f)(2)(vii))  
X Yes-Pass;           No-FAIL
3. Sun Visor Air Bag Warning Label (S4.5.1 (b))
- 3.1 Is the vehicle certified to meet the requirements of S19, S21, and S23? (Obtain the answer to this question from the COTR.) (S4.5.1(b)(2))  
X Yes (go to 3.1.1 and skip 3.2;      No (go to 3.2, skipping 3.1.1 through 3.1.6)
- 3.1.1 Is the label permanently affixed (including permanent marking on the visor material or molding into the visor material) to either side of the sun visor at each front outboard seating position such that it cannot be removed without destroying or defacing the label or the sun visor? (S4.5.1 (b)(2))  
Driver side X Yes-Pass      No-FAIL  
Passenger side X Yes-Pass      No-FAIL
- 3.1.2 Does the label conform in content (vehicles without back seats may omit the statement: "The BACK SEAT is the SAFEST place for children." (S4.5.1(b)(2)(v))) to the label shown in Figure 8 at each front outboard seating position? (S4.5.1(b)(2))  
Driver side X Yes-Pass      No-FAIL  
Passenger side X Yes-Pass      No-FAIL

- 3.1.3 Is the label heading area yellow with the word "WARNING" and the alert symbol in black? (S4.5.1 (b)(2)(i))  
 Driver side   X   Yes-Pass        No-FAIL  
 Passenger side   X   Yes-Pass        No-FAIL.
- 3.1.4 Is the message area white with black text? (S4.5.1 (b)(2)(ii))  
 Driver side   X   Yes-Pass        No-FAIL  
 Passenger side   X   Yes-Pass        No-FAIL
- 3.1.5 Is the message area at least 30 cm<sup>2</sup>? (S4.5.1 (b)(2)(ii))  
 Driver side: Length  12.5 cm , Width   7.8 cm   
 Passenger side: Length  12.5 cm , Width   7.8 cm   
 Driver actual message area   97.5   cm<sup>2</sup>  
 Passenger actual message area   97.5   cm<sup>2</sup>  
 Driver side   X   Yes-Pass        No-FAIL  
 Passenger side   X   Yes-Pass        No-FAIL
- 3.1.6 Is the pictogram black on a white background? (S4.5.1 (b)(2)(iii))  
 Driver side   X   Yes-Pass        No-FAIL  
 Passenger side   X   Yes-Pass        No-FAIL
- 3.1.7 Is the pictogram at least 30 mm (1.2 in) in length? (S4.5.1 (b)(2)(iii))  
 Driver side: Length  31 mm   
 Passenger side: Length  31 mm   
 Driver side   X   Yes-Pass        No-FAIL  
 Passenger side   X   Yes-Pass        No-FAIL
- 3.2 Vehicles not certified to meet the requirements of S19, S21, and S23.
- 3.2.1 Is the label permanently affixed (including permanent marking on the visor material or molding into the visor material) to either side of the sun visor at each front outboard seating position such that it cannot be removed without destroying or defacing it? (S4.5.1 (b)(1))  
 Driver side        Yes-Pass        No-FAIL  
 Passenger side        Yes-Pass        No-FAIL
- 3.2.2 Does the label conform in content (vehicles without back seats may omit the statement: "The BACK SEAT is the SAFEST place for children." (S4.5.1 (b)(2)(v))) to the label shown in either Figure 6a or 6b as appropriate at each front outboard seating position? (S4.5.1 (b)(1))  
 Driver side        Yes-Pass        No-FAIL  
 Passenger side        Yes-Pass        No-FAIL
- 3.2.3 Is the label heading area yellow with the word "WARNING" and the alert symbol in black? (S4.5.1 (b)(1)(i))  
 Driver side        Yes-Pass        No-FAIL  
 Passenger side        Yes-Pass        No-FAIL
- 3.2.4 Is the message area white with black text? (S4.5.1 (b)(1)(ii))  
 Driver side        Yes-Pass        No-FAIL  
 Passenger side        Yes-Pass        No-FAIL
- 3.2.5 Is the message area at least 30 cm<sup>2</sup>? (S4.5.1 (b)(1)(ii))  
 Driver side: Length       , Width         
 Passenger side: Length       , Width         
 Actual message area        cm<sup>2</sup>  
 Driver side        Yes-Pass        No-FAIL  
 Passenger side        Yes-Pass        No-FAIL
- 3.2.6 Is the pictogram black with a red circle and slash on a white background? (S4.5.1 (b)(2)(iii))  
 Driver side        Yes-Pass        No-FAIL  
 Passenger side        Yes-Pass        No-FAIL



- 3.2.7 Is the pictogram at least 30 mm in diameter? (S4.5.1 (b)(2)(iii))  
 Actual diameter \_\_\_\_\_ mm  
 Driver side \_\_\_\_\_ Yes-Pass \_\_\_\_\_ No-FAIL  
 Passenger side \_\_\_\_\_ Yes-Pass \_\_\_\_\_ No-FAIL.
- 3.3 Is the same side of the sun visor that contains the air bag warning label free of other information with the exception of the air bag maintenance label and/or the rollover-warning label? (S4.5.1 (b)(3))  
 Driver side X Yes-Pass \_\_\_\_\_ No-FAIL  
 Passenger side X Yes-Pass \_\_\_\_\_ No-FAIL.
- 3.4 Is the sun visor free of other information about air bags or the need to wear seat belts with the exception of the air bag alert label and/or the rollover-warning label? (S4.5.1 (b)(3))  
 Driver side X Yes-Pass \_\_\_\_\_ No-FAIL.  
 Passenger side X Yes-Pass \_\_\_\_\_ No-FAIL.
- 3.5 Does the driver side visor contain a rollover-warning label on the same side of the visor as the air bag warning label?  
 \_\_\_\_\_ Yes (go to 3.5.1); X No (go to 4.1, skipping 3.5.1 through 3.5.)
- 3.5.1 Are both the rollover-warning label and the air bag warning label surrounded by a continuous solid-lined border?  
 \_\_\_\_\_ Yes (go to 3.5.2 and skip 3.5.3); \_\_\_\_\_ No (go to 3.5.3 and skip 3.5.2.)
- 3.5.2 Is the shortest distance from the border of the rollover label to the border of the air bag warning label at least 1 cm? (575.105 (d)(1)(iv)(B))  
 \_\_\_\_\_ actual distance  
 \_\_\_\_\_ Yes-Pass; \_\_\_\_\_ No-FAIL.
- 3.5.3 Is the shortest distance from any of the lettering or graphics on the rollover-warning label to any of the lettering or graphics of the air bag warning label at least 3 cm? (575.105 (d)(1)(iv)(A)) \_\_\_\_\_ actual distance  
 \_\_\_\_\_ Yes-Pass; \_\_\_\_\_ No-FAIL.
4. Air Bag Alert Label (A "Rollover Warning Label" or "Rollover Alert Label" may be on the same side of the driver's sun visor as the "Air Bag Alert Label." 575.105(d))
- 4.1 Is the Sun Visor Warning Label visible when the sun visor is in the stowed position?  
 Driver side X Yes \_\_\_\_\_ No If yes, for driver and passenger go to 5.  
 Passenger side \_\_\_\_\_ No air bag X Yes \_\_\_\_\_ No
- 4.2 Is the air bag alert label permanently affixed (including permanent marking on the visor material or molding into the visor material) to the sun visor at each front outboard seating position such that it cannot be removed without destroying or defacing the label or the sun visor? (S4.5.1 (e))  
 Driver side \_\_\_\_\_ Yes-Pass \_\_\_\_\_ No-FAIL  
 Passenger side \_\_\_\_\_ Yes-Pass \_\_\_\_\_ No-FAIL
- 4.3 Is the air bag alert label visible when the visor is in the stowed position? (S4.5.1(c))  
 Driver side \_\_\_\_\_ Yes-Pass \_\_\_\_\_ No-FAIL.  
 Passenger side \_\_\_\_\_ Yes-Pass \_\_\_\_\_ No-FAIL
- 4.4 Does the label conform in content to the label shown in Figure 6c? (S4.5.1(c))  
 Driver side \_\_\_\_\_ Yes-Pass \_\_\_\_\_ No-FAIL  
 Passenger side \_\_\_\_\_ Yes-Pass \_\_\_\_\_ No-FAIL
- 4.5 Is the message area black with yellow text? (S4.5.1(c)(1))  
 Driver side \_\_\_\_\_ Yes-Pass \_\_\_\_\_ No-FAIL  
 Passenger side \_\_\_\_\_ Yes-Pass \_\_\_\_\_ No-FAIL

- 4.6 Is the message area at least 20 cm<sup>2</sup>? (S4.5.1(c)(1))  
 Driver side: Length \_\_\_\_\_ Width \_\_\_\_\_  
 Passenger side: Length \_\_\_\_\_ Width \_\_\_\_\_  
 Actual message area \_\_\_\_\_ cm<sup>2</sup>  
 Driver side: ☐ Yes-Pass ☐ No-FAIL  
 Passenger side: ☐ Yes-Pass ☐ No-FAIL
- 4.7 Is the pictogram black with a red circle and slash on a white background? (S4.5.1(c)(2))  
 Driver side: ☐ Yes-Pass ☐ No-FAIL  
 Passenger side: ☐ Yes-Pass ☐ No-FAIL
- 4.8 Is the pictogram at least 20 mm in diameter? (S4.5.1(c)(2))  
 Driver side: diameter \_\_\_\_\_ mm  
 Passenger side: diameter \_\_\_\_\_ mm  
 Driver side: ☐ Yes-Pass ☐ No-FAIL  
 Passenger side: ☐ Yes-Pass ☐ No-FAIL
5. Label On the Dashboard
- 5.1 Is the vehicle certified to meet the requirements of S19, S21, and S23? (Obtain the answer to this question from the COTR.) (S4.5.1(e)(2))  
☒ Yes (go to 5.1.1 and skip 5.2 through 5.2.5)  
☐ No (go to 5.2, skipping 5.1.1 through 5.1.6)
- 5.1.1 Does the vehicle have a label on the dash or steering wheel hub? (S4.5.1(e)(2))  
☒ Yes-Pass; ☐ No-FAIL
- 5.1.2 Is the label clearly visible from all front seating positions? (S4.5.1(e)(2))  
☒ Yes-Pass; ☐ No-FAIL
- 5.1.3 Does the label conform in content (vehicles without back seats may omit the statement: "The back seat is the safest place for children" (S4.5.1(e)(2)(iii))) to the label shown in Figure 9? (S4.5.1(e)(2))  
☒ Yes-Pass; ☐ No-FAIL
- 5.1.4 Is the heading area yellow with black text? (S4.5.1(e)(2)(i))  
☒ Yes-Pass; ☐ No-FAIL
- 5.1.5 Is the message white with black text? (S4.5.1(e)(2)(ii))  
☒ Yes-Pass; ☐ No-FAIL
- 5.1.6 Is the message area at least 30 cm<sup>2</sup>? (S4.5.1(e)(2)(ii))  
 Length 105 mm, Width 49 mm  
 Actual message area 51.5 cm<sup>2</sup>  
☒ Yes-Pass; ☐ No-FAIL
- 5.2 Does the vehicle have a label on the dash or steering wheel hub? (S4.5.1(e)(1))  
☐ Yes-Pass; ☐ No-FAIL
- 5.2.1 Is the label clearly visible from all front seating positions? (S4.5.1(e)(1))  
☐ Yes-Pass; ☐ No-FAIL
- 5.2.2 Does the label conform in content (vehicles without back seats may omit the statement: "The back seat is the safest place for children 12 and under." to the label shown in Figure 7? (S4.5.1(e)(1)(iii))  
☐ Yes-Pass; ☐ No-FAIL
- 5.2.3 Is the heading area yellow with the word "WARNING" and the alert symbol in black? (S4.5.1(e)(1)(i))  
☐ Yes-Pass; ☐ No-FAIL
- 5.2.4 Is the message white with black text? (S4.5.1(e)(1)(ii))  
☐ Yes-Pass; ☐ No-FAIL
- 5.2.5 Is the message area at least 30 cm<sup>2</sup>? (S4.5.1(e)(1)(ii))  
 Length \_\_\_\_\_ Width \_\_\_\_\_  
 Actual message area \_\_\_\_\_ cm<sup>2</sup>  
☐ Yes-Pass; ☐ No-FAIL



Label Outline, Vertical and Horizontal Line Black

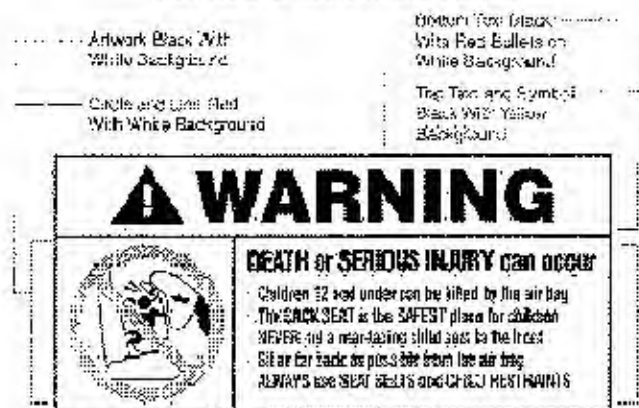


Figure 6a. Sun Visor Label Visible When Visor is in Down Position.

Label Outline, Vertical and Horizontal Line Black

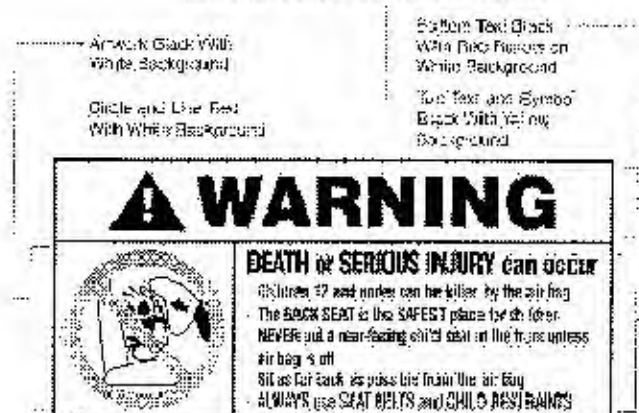


Figure 6b. Sun Visor Label Visible When Visor is in Down Position.



Figure 6c. Sun Visor Label Visible When Visor is in Up Position.

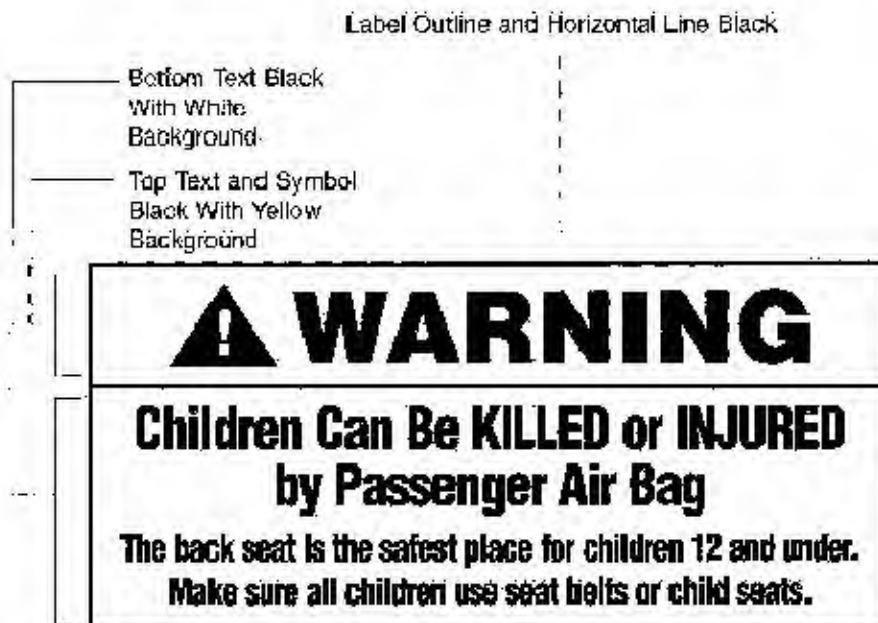


Figure 7. Removable Label on Dash.

Label Outline, Vertical and Horizontal Lines Black

Bottom Text and Artwork Black with  
White Background

Top Text Black with  
Yellow Background

# **! WARNING**

## **EVEN WITH ADVANCED AIR BAGS**



- Children can be killed or seriously injured by the air bag
- The back seat is the safest place for children
- Always use seat belts and child restraints
- See owner's manual for more information about air bags.

Figure 8. Sun Visor Label Visible when Visor is in Down Position.

Label Outline, Vertical and Horizontal Lines Black

Bottom Text Black with  
White Background

Top Text Black with  
Yellow Background

# **This Vehicle is Equipped with Advanced Air Bags**

## **Even with Advanced Air Bags**

Children can be killed or seriously injured by the air bag.

The back seat is the safest place for children.

Always use seat belts and child restraints.

See owner's manual for more information about air bags.

**Figure 9, Removable Label on Dash.**

**DATA SHEET 6**  
**FMVSS 208 READINESS INDICATOR (S4.5.2)**

NHTSA No.: C30102

Test Date: 11/14/02

Laboratory: TRC Inc.

Test Technician(s): R. Benavides

An occupant restraint system that deploys in the event of a crash shall have a monitoring system with a readiness indicator. A totally mechanical system is exempt from this requirement. (11/8/94 legal interpretation to Lawrence H. Henneberger on behalf of Breed)

☒ 1. Is the system totally mechanical? Yes ☐; No ☒  
(If YES this Data Sheet is complete.)

☒ 2. Describe the location of the readiness indicator: Left side of instrument cluster

☒ 3. Is the readiness indicator clearly visible to the driver?

☒ Yes-Pass; ☐ No-FAIL

☒ 4. Is a list of the elements in the occupant restraint system, being monitored by the readiness indicator, provided on a label or in the owner's manual?

☒ Yes-Pass; ☐ No-FAIL

☒ 5. Does the vehicle have an on-off switch for the passenger air bag?

☒ Yes (go to 6) ☐ No (this form is complete)

☒ 6. Is the air bag readiness indicator off when the passenger air bag switch is in the off position?

☒ Yes-Pass; ☐ No-FAIL

REMARKS:

## DATA SHEET 7

### Passenger Air Bag Manual Cut-Off Device (S4.5.4)

NHTSA No.: C30102

Test Date: 11/14/02

Laboratory: TRC Inc.

Test Technician(s): R. Benavides

- ☒ 1. Is the vehicle equipped with an on-off switch that deactivates the air bag installed at the right front outboard seating position?  
☒ Yes, go to 2  
☐ No, this sheet is complete
- ☐ 2. Does the vehicle have any forward-facing rear designated seating positions? (S4.5.4(a))  
☐ Yes, go to 3  
☒ No, go to 4
- ☐ 3. Verification of the lack of room for a child restraint in the rear seat behind the driver's seat. (S4.5.4(b))
- ☐ 3.1 Position the seat's adjustable lumbar supports so that the lumbar support is in its lowest, retracted or deflated adjustment position. (S8.1.3)  
☐ N/A - No lumbar adjustment
- ☐ 3.2. Position any adjustable parts of the seat that provide additional support so that they are in the lowest or most open adjustment position. (S16.2.10.2)  
☐ N/A - No additional support adjustment
- ☐ 3.3 If the seat cushion adjusts fore and aft, independent of the seat back, set this adjustment to the full rearward position. (S16.2.10.3.1)  
☐ N/A - No independent fore-aft seat cushion adjustment
- ☐ 3.4. If the seat cushion height adjusts independent of the seat back, set this adjustment to the full down position. (S16.2.10.3.1)  
☐ N/A - No independent seat cushion height adjustment.
- ☐ 3.5. Put the seat in its full rearward position. (S16.2.10.3.1)  
☐ N/A - the seat does not have a fore-aft adjustment
- ☐ 3.6. If the seat height is adjustable, put it in the full down position. (S16.2.10.3.1)  
☐ N/A - No seat height adjustment
- ☐ 3.7 Draw a horizontal reference line on the side of the seat cushion.
- ☐ 3.8. Using only the controls that change the seat in the fore-aft direction, mark the fore-aft seat positions. Mark the side of the seat and a reference position directly below on a part of the vehicle that does not adjust. For manual seats, move the seat forward one detent at a time and mark each detent as was done for the full rearward position. For power seats, mark only the full rearward, middle, and full forward positions. Label three of the positions with the following: F for full forward, M for mid-position (if there is no mid position, label the closest adjustment position to the rear of the mid-point), and R for full rearward.  
☐ N/A - The seat does not have a fore-aft adjustment.
- ☐ 3.9. Using only the controls that change the seat in the fore-aft direction, place the seat in the full rearward position and then place the seat in the middle fore-aft position. (S8.1.2)  
☐ N/A - The seat does not have fore-aft adjustment.  
☐ Mid position  
If there is no mid position, put the seat in the closest adjustment position to the rear of the midpoint. Describe the location of the seat: \_\_\_\_\_
- ☐ 3.10. If seat adjustments, other than fore-aft, are present and the horizontal reference line is no longer horizontal, use those adjustments to maintain the reference line as closely as possible to the horizontal.  
☐ N/A - No adjustments

- Angle of reference line as tested \_\_\_\_\_
- \_\_\_ 3.11. The seat back angle, if adjustable, is set at the manufacturer's nominal design riding position for a 50th percentile adult male in the manner specified by the manufacturer. (S4.5.4.1 (b) and S8.1.3)  
 \_\_\_ N/A – No seat back angle adjustment  
 Manufacturer's design seat back angle \_\_\_\_\_  
 Tested seat back angle \_\_\_\_\_
- \_\_\_ 3.12. Is the driver seat a bucket seat?  
 \_\_\_ Yes, go to 3.12.1 and skip 3.12.2.  
 \_\_\_ No, go to 3.12.2 and skip 3.12.1.
- \_\_\_ 3.12.1 Bucket seats:  
 \_\_\_ 3.12.1.1 Locate and mark a vertical Plane B through the longitudinal centerline of the seat driver's seat cushion. (S22.2.1.3) The longitudinal centerline of a bucket seat cushion is determined at the widest part of the seat cushion. Measure perpendicular to the longitudinal centerline of the vehicle.  
 Record the width of the seat. \_\_\_\_\_  
 Record the distance from the edge of the seat to Plane B. \_\_\_\_\_
- \_\_\_ 3.12.1.2 Locate the longitudinal horizontal line in plane B that is tangent to the highest point of the rear seat cushion behind the driver's seat. Measure along this line from the front of the seat back of the rear seat to the rear of the seat back of the driver's seat  
 \_\_\_\_\_ mm distance  
 \_\_\_ less than 720 mm – Pass  
 \_\_\_ more than 720 mm – FAIL  
 Go to 4
- \_\_\_ 3.12.2 Bench seats (including split bench seats):  
 \_\_\_ 3.12.2.1 Locate and mark a vertical Plane B through the center of the steering wheel parallel to the vehicle longitudinal centerline.  
 \_\_\_ 3.12.2.2 Locate the longitudinal horizontal line in plane B that is tangent to the highest point of the rear seat cushion. Measure along this line from the front of the seat back of the rear seat to the rear of the seat back of the front seat.  
 \_\_\_\_\_ mm distance  
 \_\_\_ less than 720 mm – Pass  
 \_\_\_ more than 720 mm – FAIL  
 Go to 4
- X 4. Does the device turn the air bag on and off using the vehicle's ignition key? (S4.5.4.2)  
X Yes-Pass; \_\_\_ No-FAIL
- X 5. Is the on-off device separate from the ignition switch? (S4.5.4.2)  
X Yes-Pass; \_\_\_ No-FAIL
- \_\_\_ 6. Is there a telltale light that comes on when the passenger air bag is turned off? (S4.5.4.2)  
 \_\_\_ Yes-Pass; \_\_\_ No-FAIL This check was not performed
- \_\_\_ 7. Telltale light (S4.5.4.3) This check was not performed
- \_\_\_ 7.1 Is the light yellow? S4.5.4.3(a)  
 \_\_\_ Yes-Pass; \_\_\_ No-FAIL
- \_\_\_ 7.2 Are the words "PASSENGER AIR BAG OFF" (S4.5.4.3(b))  
 \_\_\_ 7.2.1 on the telltale?  
 \_\_\_ Yes – Pass, go to 7.3  
 \_\_\_ No – go to 7.2.2
- \_\_\_ 7.2.2 within 25 mm of the telltale? \_\_\_\_\_ mm from the edge of the telltale light  
 \_\_\_ Yes-Pass; \_\_\_ No-FAIL.

- ☐ 7.3 Does the telltale remain illuminated while the air bag is turned off? (S4.5.4.3c)) (Leave the air bag off for 5 minutes.)  
☐ Yes-Pass; ☐ No-FAIL
- ☐ 7.4 Is the telltale illuminated while the air bag is turned on? (S4.5.4.3d))  
☐ Yes-Pass; ☐ No-FAIL
- ☐ 7.5 Is the telltale combined with the air bag readiness indicator? (S4.5.3(e))  
☐ Yes-Pass; ☐ No-FAIL
- ☒ 8. Owner's manual
- ☒ 8.1 Does the owner's manual contain complete instructions on the operation of the on-off switch? (S4.5.4.4(a))  
☒ Yes-Pass; ☐ No-FAIL
- ☒ 8.2 Does the owner's manual contain a statement that the on-off switch should only be used when a member of one of the following risk groups is occupying the right front passenger seating position? (S4.5.4.4(b))
- Infants:                   there is no back seat  
                                   the rear seat is too small to accommodate a child restraint  
                                   there is a medical condition that must be monitored constantly
- Children aged 1 to 12: there is no back seat  
                                   space is not always available in the rear seat  
                                   there is a medical condition that must be monitored constantly
- Medical condition:    medical risk causes special risk for passenger  
                                   greater risk for harm than with the air bag on
- ☒ Yes-Pass; ☐ No-FAIL
- ☒ 8.3 Does the owner's manual contain a warning about the safety consequences of using the on-off switch at other times?  
☒ Yes-Pass; ☐ No-FAIL



**DATA SHEET 8**  
**LAP BELT LOCKABILITY**

Passenger cars, trucks, buses, and multipurpose passenger  
vehicles with a GVWR of 10,000 pounds or less. (S7.1.1.5)

Complete one of these forms for **each** designated seating position that can be adjusted to forward-facing or that is a forward-facing seat, other than the driver's seat (S7.1.1.5(a), **and** that has seat belt retractors that are not solely automatic locking retractors. (S7.1.1.5(c))

NHTSA No.: C30102

Test Date: 11/14/02

Laboratory: TRC Inc.

Test Technician(s): R. Benavides

DESIGNATED SEATING POSITION: Front Row Center Not Type 2

☒ X N/A No retractor is at this position

☐ N/A – The retractor is an automatic locking retractor ONLY

☐ 1. Record test fore-aft seat position. \_\_\_\_\_ (S7.1.1.5(c)(1))  
(Any position is acceptable.)

☐ 2. Does the lap belt portion of the seat belt in the forward-facing seat or seat that can be adjusted to forward-facing consist of a locking device that does NOT have to be attached by the vehicle user to the seat belt webbing, retractor, or any other part of the vehicle. (S7.1.1.5(a))  
\_\_\_\_ Yes-Pass; \_\_\_\_\_ No-FAIL

☐ 3. Does the lap belt portion of the seat belt in the forward-facing seat or seat that can be adjusted to forward-facing consist of a locking device that does NOT require inverting, twisting or deforming of the belt webbing. (S7.1.1.5(a))  
\_\_\_\_ Yes-Pass; \_\_\_\_\_ No-FAIL

☐ 4. Buckle the seat belt. (S7.1.1.5(c)(1))

☐ 5. Locate a reference point A on the seat belt buckle. (S7.1.1.5(c)(2))

☐ 6. Locate a reference point B on the attachment hardware or retractor assembly at the other end of the lap belt or lap belt portion of the seat belt assembly. (S7.1.1.5(c)(2))

☐ 7. Does the vehicle user need to take some action to activate the locking feature on the lap belt portion of the seat belt in any forward-facing seat or seat that can be adjusted to forward-facing?  
\_\_\_\_ Yes; \_\_\_\_ No (If yes, go to 7.1. If no, go to 8.)

☐ 7.1 Does the vehicle owner's manual include a description in words and/or diagrams describing how to activate the locking feature so that the seat belt assembly can tightly secure a child restraint system and how to deactivate the locking feature to remove the child restraint system. (S7.1.1.5(b))  
\_\_\_\_ Yes-Pass; \_\_\_\_\_ No-FAIL

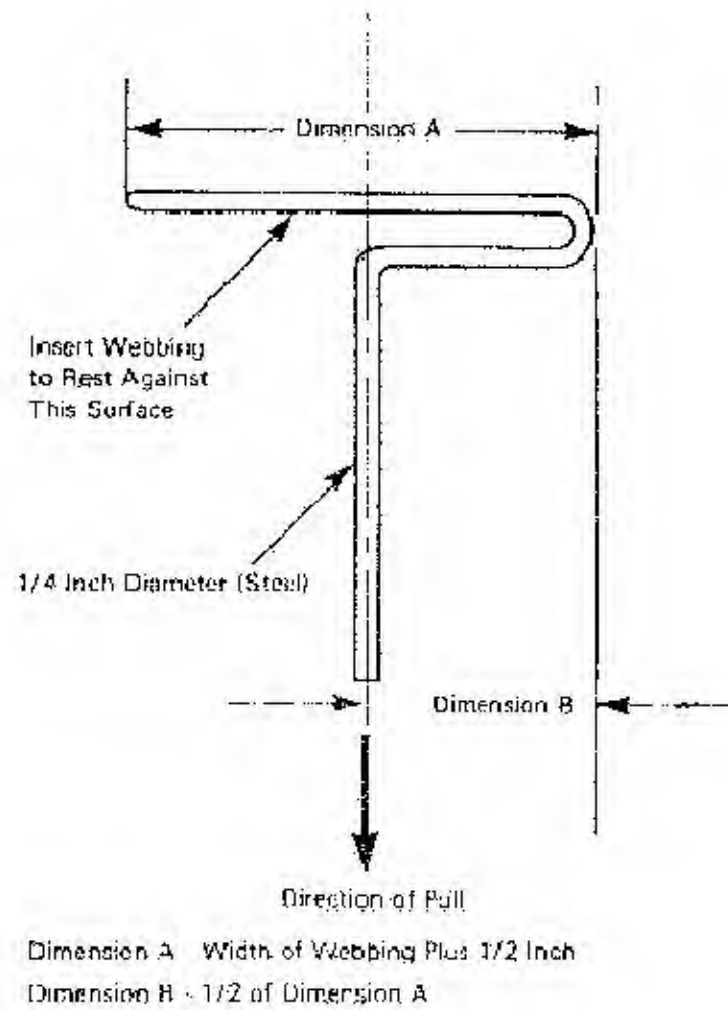
☐ 8. Adjust the lap belt or lap belt portion of the seat belt assembly according to any procedures recommended in the vehicle owner's manual to activate any locking feature so that the webbing between points A and B is at the maximum length allowed by the belt system. (S7.1.1.5(c)(2) & S7.1.1.5(c)(1))

☐ 9. Measure and record the distance between points A and B along the longitudinal centerline of the webbing for the lap belt or lap belt portion of the seat belt assembly. (S7.1.1.5(c)(2))  
Measured distance between A and B \_\_\_\_\_ inches

☐ 10. Readjust the belt system so that the webbing between points A and B is at any length that is 5 inches or more shorter than the maximum length of the webbing. (S7.1.1.5(c)(3))

- \_\_\_ 11. To the lap belt or lap belt portion of the seat belt assembly, apply a preload of 10 pounds using the webbing tension pull device in Figure 5. Apply the load in a vertical plane parallel to the longitudinal axis of the vehicle and passing through the seating reference point of the designated seating position. Apply the preload in a horizontal direction toward the front of the vehicle with a force application angle of not less than 5 degrees nor more than 15 degrees above the horizontal. (S7.1.1.5(c)(4))  
Measured force application angle \_\_\_\_\_ (spec. 5 - 15 degrees)
- \_\_\_ 12. Measure the length between points A and B along the longitudinal centerline of the webbing while the preload is being applied. (S7.1.1.5(c)(4))  
Measured distance between A and B \_\_\_\_\_ inches
- \_\_\_ 13. Increase the load to 50 pounds at a rate of no more than 50 pounds per second. Attain the load in not more than 5 seconds. (If webbing sensitive emergency locking retractors are installed as part of the lap belt or lap belt portion of the seat belt assembly, apply the load at a rate less than the threshold value for lock-up specified by the manufacturer.) Maintain the load for at least 5 seconds. Measure and record the distance between points A and B along the longitudinal centerline of the webbing. (S7.1.1.5(c)(5))  
Record onset rate \_\_\_\_\_ lb/sec (spec. 10 to 50 lb/sec) (S7.1.1.5(c)(5))  
Measured distance between A and B \_\_\_\_\_ inches (S7.1.1.5(c)(6))
- \_\_\_ 14. Subtract the measurement in 13 from the measurement in 12. Is the difference 2 inches or less? (S7.1.1.5(c)(7)) 13-12= \_\_\_\_\_ inches;  
\_\_\_ Yes-Pass; \_\_\_ No-FAIL.
- \_\_\_ 15. Subtract the measurement in 9 from the measurement in 13. Is the difference 3 inches or more? (S7.1.1.5(c)(8)) 9-13= \_\_\_\_\_ inches;  
\_\_\_ Yes-Pass; \_\_\_ No-FAIL.

REMARKS:



**Figure 5. - Webbing Tension Pull Device**

**DATA SHEET 8**  
**LAP BELT LOCKABILITY**

Passenger cars, trucks, buses, and multipurpose passenger  
vehicles with a GVWR of 10,000 pounds or less. (S7.1.1.5)

Complete one of these forms for **each** designated seating position that can be adjusted to forward-facing or that is a forward-facing seat, other than the driver's seat (S7.1.1.5(a), **and** that has seat belt retractors that are not solely automatic locking retractors. (S7.1.1.5(c))

NHTSA No.: C30102

Test Date: 11/14/02

Laboratory: TRC Inc.

Test Technician(s): R. Benavides

DESIGNATED SEATING POSITION: Front Row Right

☐ N/A No retractor is at this position

☐ N/A – The retractor is an automatic locking retractor ONLY

☒ 1. Record test fore-aft seat position. 23 marks (S7.1.1.5(c)(1))  
(Any position is acceptable.)

☒ 2. Does the lap belt portion of the seat belt in the forward-facing seat or seat that can be adjusted to forward-facing consist of a locking device that does NOT have to be attached by the vehicle user to the seat belt webbing, retractor, or any other part of the vehicle (S7.1.1.5(a))  
☒ Yes-Pass; ☐ No-FAIL

☒ 3. Does the lap belt portion of the seat belt in the forward-facing seat or seat that can be adjusted to forward-facing consist of a locking device that does NOT require inverting, twisting or deforming of the belt webbing. (S7.1.1.5(a))  
☒ Yes-Pass; ☐ No-FAIL

☒ 4. Buckle the seat belt. (S7.1.1.5(c)(1))

☒ 5. Locate a reference point A on the seat belt buckle. (S7.1.1.5(c)(2))

☒ 6. Locate a reference point B on the attachment hardware or retractor assembly at the other end of the lap belt or lap belt portion of the seat belt assembly. (S7.1.1.5(c)(2))

☒ 7. Does the vehicle user need to take some action to activate the locking feature on the lap belt portion of the seat belt in any forward-facing seat or seat that can be adjusted to forward-facing?  
☒ Yes; ☐ No (If yes, go to 7.1. If no, go to 8.)

☒ 7.1 Does the vehicle owner's manual include a description in words and/or diagrams describing how to activate the locking feature so that the seat belt assembly can tightly secure a child restraint system and how to deactivate the locking feature to remove the child restraint system. (S7.1.1.5(b))  
☒ Yes-Pass; ☐ No-FAIL

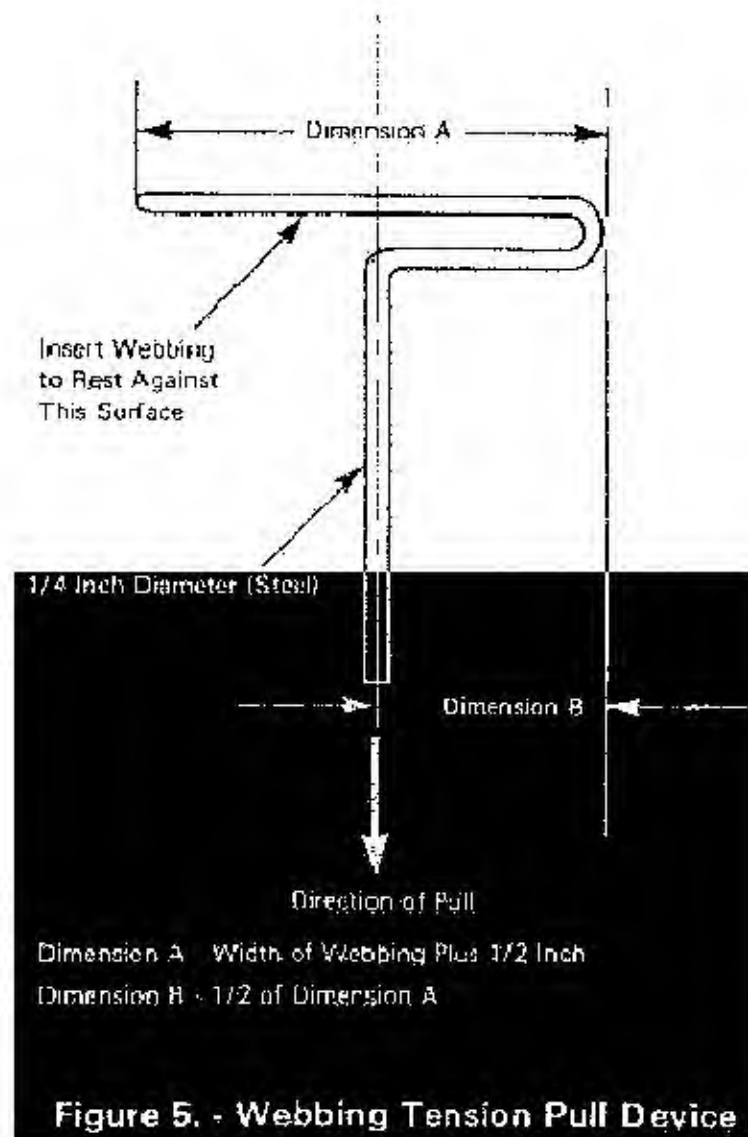
☒ 8. Adjust the lap belt or lap belt portion of the seat belt assembly according to any procedures recommended in the vehicle owner's manual to activate any locking feature so that the webbing between points A and B is at the maximum length allowed by the belt system. (S7.1.1.5(c)(2) & S7.1.1.5(c)(1))

☒ 9. Measure and record the distance between points A and B along the longitudinal centerline of the webbing for the lap belt or lap belt portion of the seat belt assembly. (S7.1.1.5(c)(2))  
Measured distance between A and B 53.8 inches

☒ 10. Readjust the belt system so that the webbing between points A and B is at any length that is 5 inches or more shorter than the maximum length of the webbing. (S7.1.1.5(c)(3))

- X 11. To the lap belt or lap belt portion of the seat belt assembly, apply a preload of 10 pounds using the webbing tension pull device in Figure 5. Apply the load in a vertical plane parallel to the longitudinal axis of the vehicle and passing through the seating reference point of the designated seating position. Apply the preload in a horizontal direction toward the front of the vehicle with a force application angle of not less than 5 degrees nor more than 15 degrees above the horizontal. (S7.1.1.5(c)(4))  
Measured force application angle 10° (spec. 5 - 15 degrees)
- X 12. Measure the length between points A and B along the longitudinal centerline of the webbing while the preload is being applied. (S7.1.1.5(c)(4))  
Measured distance between A and B 30.4 inches
- X 13. Increase the load to 50 pounds at a rate of no more than 50 pounds per second. Attain the load in not more than 5 seconds. (If webbing sensitive emergency locking retractors are installed as part of the lap belt or lap belt portion of the seat belt assembly, apply the load at a rate less than the threshold value for lock-up specified by the manufacturer.) Maintain the load for at least 5 seconds. Measure and record the distance between points A and B along the longitudinal centerline of the webbing. (S7.1.1.5(c)(5))  
Record onset rate 50 lb/sec (spec. 10 to 50 lb/sec) (S7.1.1.5(c)(5))  
Measured distance between A and B 31.0 inches (S7.1.1.5(c)(6))
- X 14. Subtract the measurement in 13 from the measurement in 12. Is the difference 2 inches or less? (S7.1.1.5(c)(7)) 13-12= 0.6 inches;  
X Yes-Pass;      No-FAIL.
- X 15. Subtract the measurement in 9 from the measurement in 13. Is the difference 3 inches or more? (S7.1.1.5(c)(8)) 9-13= 22.8 inches;  
X Yes-Pass;      No-FAIL.

REMARKS:



**DATA SHEET 9**  
**FMVSS 208 SEAT BELT WARNING SYSTEM CHECK (S7.3)**

NHTSA No.: C30102

Test Date: 11/14/02

Laboratory: TRC Inc.

Test Technician(s): R. Benavides

- ☒ 1. The occupant is in the driver's seat.  
☒ 2. The seat belt is in the stowed position.  
☒ 3. The key is in the "on" or "start" position.  
☒ 4. The time duration of the audible signal beginning with key "on" or "start" is 6 seconds.  
☒ 5. The occupant is in the driver's seat.  
☒ 6. The seat belt is in the stowed position.  
☒ 7. The key is in the "on" or "start" position.  
☒ 8. The time duration of the warning light beginning with key "on" or "start" is 7 seconds.  
☒ 9. The occupant is in the driver's seat.  
☒ 10. The seat belt is in the latched position and with at least 4 inches of belt webbing extended.  
☒ 11. The key is in the "on" or "start" position.  
☒ 12. The time duration of the audible signal beginning with key "on" or "start" is 0 seconds.  
☒ 13. The occupant is in the driver's seat.  
☒ 14. The seat belt is in the latched position and with at least 4 inches of belt webbing extended.  
☒ 15. The key is in the "on" or "start" position.  
☒ 16. The time duration of the warning light beginning with key "on" or "start" is 7 seconds.  
☒ 17. Complete the following table with the data from 4, 8, 12 and 16 to determine which option is used

		Warning light	Warning light specification	Audible signal	Audible signal specification*
S7.3 (a)(1)	Belt latched & Key on or start	Item 16 <u>      </u>	0 seconds*	Item 12 <u>      </u>	0 seconds**
	Belt stowed & Key on or start	Item 8 <u>      </u>	60 seconds minimum	Item 4 <u>      </u>	4 to 8 seconds
S7.3 (a)(2)	Belt latched & Key on or start	Item 16 <u>7</u>	4 to 8 seconds	Item 12 <u>0</u>	0 seconds**
	Belt stowed & Key on or start	Item 8 <u>7</u>	4 to 8 seconds	Item 4 <u>6</u>	4 to 8 seconds

\* 49 USC § 30124 does NOT allow an audible signal to operate for more than 8 seconds

\*\* 0 seconds means the light or audible signal are NOT permitted to operate under these conditions  
 See 7/12/00 interpretation to Patrick Raher of Hogan and Hartson

- X 18. The seat belt warning system meets the requirements of (manufacturers may comply with either section)
- S7.3 (a)(1)
  - X S7.3 (a)(2)
  - FAIL** - Does NOT meet the requirements of either option
- X 19. Note wording of visual warning. (S7.3(a)(1) and S7.3(a)(2))
- Fasten Seat Belts
  - Fasten Belts
  - X Symbol 101
  - FAIL** Does not use any of the above wording or symbol



**DATA SHEET 10**  
**BELT CONTACT FORCE (S7.4.3)**

NHTSA No.: C30102

Test Date: 11/14/02

Laboratory: TRC Inc.

Test Technician(s): R. Benavides

DESIGNATED SEATING POSITION: Front Row Left

Test all Type 2 seat belts other than those in walk-in van-type vehicles and those at front outboard designated seating positions in passenger cars. Complete a form for each applicable seat belt.

- ☒ 1. Does the vehicle incorporate a webbing tension-relieving device?  
☐ Yes (this form is complete)  
☒ No (continue with this check sheet)
- ☒ 2. Position the seat's adjustable lumbar supports so that the lumbar support is in its lowest, retracted or deflated adjustment position. (S8.1.5)  
☒ N/A - No lumbar adjustment
- ☒ 3. Position any adjustable parts of the seat that provide additional support so that they are in the lowest or most open adjustment position. (S16.2.10.2)  
☒ N/A - No additional support adjustment
- ☒ 4. If the seat cushion adjusts fore and aft, independent of the seat back, set this adjustment to the full rearward position. (S16.2.10.3.1)  
☒ N/A - No independent fore-aft seat cushion adjustment
- ☒ 5. If the seat cushion height adjusts independent of the seat back, set this adjustment to the full down position. (S16.2.10.3.1)  
☒ N/A - No independent seat cushion height adjustment.
- ☒ 6. Put the seat in its full rearward position. (S16.2.10.3.1)  
☐ N/A - the seat does not have a fore-aft adjustment
- ☒ 7. If the seat height is adjustable, put it in the full down position. (S16.2.10.3.1)  
☒ N/A - No seat height adjustment
- ☒ 8. Draw a horizontal reference line on the side of the seat cushion.
- ☒ 9. Using only the controls that change the seat in the fore-aft direction, mark the fore-aft seat positions. Mark the side of the seat and a reference position directly below on a part of the vehicle that does not adjust. For manual seats, move the seat forward one detent at a time and mark each detent as was done for the full rearward position. For power seats, mark only the full rearward, middle, and full forward positions. Label three of the positions with the following: F for full forward, M for mid position (if there is no mid position, label the closest adjustment position to the rear of the mid-point), and R for full rearward.  
☐ N/A - The seat does not have a fore-aft adjustment
- ☒ 10. Using only the controls that change the seat in the fore-aft direction, place the seat in the full rearward position and then place the seat in the middle fore-aft position for this test. (S8.1.2)  
☒ Mid position. If there is no mid position, put the seat in the closest adjustment position to the rear of the midpoint. Describe the location of the seat: Mid
- ☒ 11. If seat adjustments other than fore-aft are present and the horizontal reference line is no longer horizontal, use those adjustments to maintain the reference line as closely as possible to the horizontal. (S16.2.10.3.2.1)  
☒ N/A - No adjustments  
Reference line angle as tested 0°

- X 12. The seat back angle, if adjustable, is set at the manufacturer's nominal design riding position for a 50th percentile adult male in the manner specified by the manufacturer. (S4.5.4.1 (b) and S8.1.5)
- \_\_\_ N/A No adjustments
- Manufacturer's design seat back angle 15.5°
- Tested seat back angle 15.5°
- X 13. Position the test dummies according to dummy position placement instructions in Appendix B and include the positioning check sheets.
- X 14. Fasten the seat belt latch.
- X 15. Pull either 12 inches of belt webbing or the maximum available amount of belt webbing, whichever is less, from the retractor and then release it, allowing the belt webbing to return to the dummy's chest.
- X 16. Locate the point where the centerline of the upper torso belt webbing crosses the midsagittal line on the dummy's chest. At that point pull the belt webbing out 3 inches from the dummy's chest and release until it is within one inch from the dummy's chest. (S10.8) Using a force measuring gage with a full scale range of no more than 1.5 pounds, measure the contact force perpendicular to the dummy's chest exerted by the belt webbing.
- Contact force 0.60 lb.
- X 0.0 to 0.7 pounds - Pass
- \_\_\_ greater than 0.7 pounds - FAIL

**DATA SHEET 10**  
**BELT CONTACT FORCE (S7.4.3)**

NHTSA No.: C30102

Test Date: 11/14/02

Laboratory: TRC Inc.

Test Technician(s): R. Benavides

DESIGNATED SEATING POSITION: Front Row Right

Test all Type 2 seat belts other than those in walk-in van-type vehicles and those at front outboard designated seating positions in passenger cars. Complete a form for each applicable seat belt.

- ☒ 1. Does the vehicle incorporate a webbing tension-relieving device?  
☐ Yes (this form is complete)  
☒ No (continue with this check sheet)
- ☒ 2. Position the seat's adjustable lumbar supports so that the lumbar support is in its lowest, retracted or deflated adjustment position. (S8.1.5)  
☒ N/A - No lumbar adjustment
- ☒ 3. Position any adjustable parts of the seat that provide additional support so that they are in the lowest or most open adjustment position. (S16.2.10.2)  
☒ N/A - No additional support adjustment
- ☒ 4. If the seat cushion adjusts fore and aft, independent of the seat back, set this adjustment to the full rearward position. (S16.2.10.3.1)  
☒ N/A - No independent fore-aft seat cushion adjustment
- ☒ 5. If the seat cushion height adjusts independent of the seat back, set this adjustment to the full down position. (S16.2.10.3.1)  
☒ N/A - No independent seat cushion height adjustment.
- ☒ 6. Put the seat in its full rearward position. (S16.2.10.3.1)  
☐ N/A - the seat does not have a fore-aft adjustment
- ☒ 7. If the seat height is adjustable, put it in the full down position. (S16.2.10.3.1)  
☒ N/A - No seat height adjustment
- ☒ 8. Draw a horizontal reference line on the side of the seat cushion.
- ☒ 9. Using only the controls that change the seat in the fore-aft direction, mark the fore-aft seat positions. Mark the side of the seat and a reference position directly below on a part of the vehicle that does not adjust. For manual seats, move the seat forward one detent at a time and mark each detent as was done for the full rearward position. For power seats, mark only the full rearward, middle, and full forward positions. Label three of the positions with the following: F for full forward, M for mid position (if there is no mid position, label the closest adjustment position to the rear of the mid-point), and R for full rearward.  
☐ N/A - The seat does not have a fore-aft adjustment
- ☒ 10. Using only the controls that change the seat in the fore-aft direction, place the seat in the full rearward position and then place the seat in the middle fore-aft position for this test. (S8.1.2)  
☒ Mid position. If there is no mid position, put the seat in the closest adjustment position to the rear of the midpoint. Describe the location of the seat: Mid
- ☒ 11. If seat adjustments other than fore-aft are present and the horizontal reference line is no longer horizontal, use those adjustments to maintain the reference line as closely as possible to the horizontal. (S16.2.10.3.2.1)  
☒ N/A - No adjustments  
Reference line angle as tested 0°

- ☒ 12. The seat back angle, if adjustable, is set at the manufacturer's nominal design riding position for a 50th percentile adult male in the manner specified by the manufacturer. (S4.5.4.1 (b) and S8.1.5)
- ☐ N/A No adjustments
- Manufacturer's design seat back angle 15.5°
- Tested seat back angle 15.5°
- ☒ 13. Position the test dummies according to dummy position placement instructions in Appendix B and include the positioning check sheets.
- ☒ 14. Fasten the seat belt latch.
- ☒ 15. Pull either 12 inches of belt webbing or the maximum available amount of belt webbing, whichever is less, from the retractor and then release it, allowing the belt webbing to return to the dummy's chest.
- ☒ 16. Locate the point where the centerline of the upper torso belt webbing crosses the midsagittal line on the dummy's chest. At that point pull the belt webbing out 3 inches from the dummy's chest and release until it is within one inch from the dummy's chest. (S10.8) Using a force measuring gage with a full scale range of no more than 1.5 pounds, measure the contact force perpendicular to the dummy's chest exerted by the belt webbing.
- Contact force 0.56 lb.
- ☒ 0.0 to 0.7 pounds - Pass
- ☐ greater than 0.7 pounds - FAIL

**DATA SHEET 10**  
**BELT CONTACT FORCE (S7.4.3)**

NHTSA No.: C30102

Test Date: 11/14/02

Laboratory: TRC Inc.

Test Technician(s): R. Benavides

DESIGNATED SEATING POSITION: Front Row Center – Not Type 2

Test all Type 2 seat belts other than those in walk-in van-type vehicles and those at front outboard designated seating positions in passenger cars. Complete a form for each applicable seat belt.

- ☐ 1. Does the vehicle incorporate a webbing tension-relieving device?  
☐ Yes (this form is complete)  
☐ No (continue with this check sheet)
- ☐ 2. Position the seat's adjustable lumbar supports so that the lumbar support is in its lowest, retracted or deflated adjustment position. (S8.1.5)  
☐ N/A – No lumbar adjustment
- ☐ 3. Position any adjustable parts of the seat that provide additional support so that they are in the lowest or most open adjustment position. (S16.2.10.2)  
☐ N/A – No additional support adjustment
- ☐ 4. If the seat cushion adjusts fore and aft, independent of the seat back, set this adjustment to the full rearward position. (S16.2.10.3.1)  
☐ N/A – No independent fore-aft seat cushion adjustment
- ☐ 5. If the seat cushion height adjusts independent of the seat back, set this adjustment to the full down position. (S16.2.10.3.1)  
☐ N/A – No independent seat cushion height adjustment.
- ☐ 6. Put the seat in its full rearward position. (S16.2.10.3.1)  
☐ N/A – the seat does not have a fore-aft adjustment
- ☐ 7. If the seat height is adjustable, put it in the full down position. (S16.2.10.3.1)  
☐ N/A – No seat height adjustment
- ☐ 8. Draw a horizontal reference line on the side of the seat cushion.
- ☐ 9. Using only the controls that change the seat in the fore-aft direction, mark the fore-aft seat positions. Mark the side of the seat and a reference position directly below on a part of the vehicle that does not adjust. For manual seats, move the seat forward one detent at a time and mark each detent as was done for the full rearward position. For power seats, mark only the full rearward, middle, and full forward positions. Label three of the positions with the following: F for full forward, M for mid position (if there is no mid position, label the closest adjustment position to the rear of the mid-point), and R for full rearward.  
☐ N/A – The seat does not have a fore-aft adjustment
- ☐ 10. Using only the controls that change the seat in the fore-aft direction, place the seat in the full rearward position and then place the seat in the middle fore-aft position for this test. (S8.1.2)  
☐ Mid position. If there is no mid position, put the seat in the closest adjustment position to the rear of the midpoint. Describe the location of the seat: \_\_\_\_\_
- ☐ 11. If seat adjustments other than fore-aft are present and the horizontal reference line is no longer horizontal, use those adjustments to maintain the reference line as closely as possible to the horizontal. (S16.2.10.3.2.1)  
☐ N/A – No adjustments  
Reference line angle as tested: \_\_\_\_\_

- \_\_\_ 12. The seat back angle, if adjustable, is set at the manufacturer's nominal design riding position for a 50th percentile adult male in the manner specified by the manufacturer. (S4.5.4.1 (b) and S8.1.5)
- \_\_\_ N/A No adjustments
- Manufacturer's design seat back angle \_\_\_\_\_
- Tested seat back angle \_\_\_\_\_
- \_\_\_ 13. Position the test dummies according to dummy position placement instructions in Appendix B and include the positioning check sheets.
- \_\_\_ 14. Fasten the seat belt latch.
- \_\_\_ 15. Pull either 12 inches of belt webbing or the maximum available amount of belt webbing, whichever is less, from the retractor and then release it, allowing the belt webbing to return to the dummy's chest.
- \_\_\_ 16. Locate the point where the centerline of the upper torso belt webbing crosses the midsagittal line on the dummy's chest. At that point pull the belt webbing out 3 inches from the dummy's chest and release until it is within one inch from the dummy's chest. (S10.8) Using a force measuring gage with a full scale range of no more than 1.5 pounds, measure the contact force perpendicular to the dummy's chest exerted by the belt webbing.
- Contact force \_\_\_\_\_ lb
- \_\_\_ 0.0 to 0.7 pounds - Pass
- \_\_\_ greater than 0.7 pounds - FAIL



**DATA SHEET 11**  
**LATCHPLATE ACCESS (S7.4.4)**

NHTSA No.: C30102

Test Date: 11/14/02

Laboratory: TRC Inc.

Test Technician(s): R. Benavides

DESIGNATED SEATING POSITION: Left Front

Test all front outboard seat belts other than those in walk-in van-type vehicles and those at front outboard designated seating positions in passenger cars. Complete a form for each applicable seat belt.

- X 1. Position the seat's adjustable lumbar supports so that the lumbar support is in its lowest, retracted or deflated adjustment position. (8.1.3)  
X N/A - No lumbar adjustment
- X 2. Position any adjustable parts of the seat that provide additional support so that they are in the lowest or most open adjustment position. (S16.2.10.2)  
X N/A - No additional support adjustment
- X 3. If the seat cushion adjusts fore and aft, independent of the seat back, set this adjustment to the full rearward position. (S16.2.10.3.1)  
X N/A - No independent fore-aft seat cushion adjustment
- X 4. If the seat cushion height adjusts independent of the seat back, set this adjustment to the full down position. (S16.2.10.3.1)  
X N/A - No independent seat cushion height adjustment.
- X 5. Put the seat in its full rearward position. (S16.2.10.3.1)  
     N/A - the seat does not have a fore-aft adjustment
- X 6. If the seat height is adjustable, put it in the full down position. (S16.2.10.3.1)  
X N/A - No seat height adjustment
- X 7. Draw a horizontal reference line on the side of the seat cushion
- X 8. Using only the controls that change the seat in the fore-aft direction, mark the fore-aft seat positions. Mark the side of the seat and a reference position directly below on a part of the vehicle that does not adjust. For manual seats, move the seat forward one detent at a time and mark each detent as was done for the full rearward position. For power seats, mark only the full rearward, middle, and full forward positions. Label three of the positions with the following: F for full forward, M for mid-position (if there is no mid position, label the closest adjustment position to the rear of the mid-point), and R for full rearward  
     N/A - The seat does not have a fore-aft adjustment.
- X 9. Using only the controls that change the seat in the fore-aft direction, place the seat in the full rearward position and then place the seat in the forwardmost fore-aft position for this test. (S10.7)
- X 10. If seat adjustments, other than fore-aft, are present and the horizontal reference line is no longer horizontal, use those adjustments to maintain the reference line as closely as possible to the horizontal  
X N/A - No adjustments  
Reference line angle as tested 0°

- ☒ 11. The seat back angle, if adjustable, is set at the manufacturer's nominal design riding position for a 50th percentile adult male in the manner specified by the manufacturer. (S4.5.4.1 (b) and S8.1.3)  
     \_\_\_ N/A No seat back angle adjustment  
     Manufacturer's design seat back angle 15.5°  
     Tested seat back angle 15.5°
- ☒ 12. Position the test dummy using the procedures in Appendix A. (Some modifications to the positioning procedure may need to be made because the seat is in its forward most position. Note on the Appendix A positioning check sheet any deviations necessary to position the Part 572, Subpart E dummy.) Include the positioning check sheet with this form.
- ☒ 13. Position the adjustable seat belt anchorage in the manufacturer's nominal design position for a 50th percentile adult male occupant.
- ☒ 14. Attach the inboard reach string to the base of the head following the instructions on Figure 3.
- ☒ 15. Attach the outboard reach string to the torso sheath following the instructions on Figure 3.
- ☒ 16. Place the latch plate in the stowed position.
- ☒ 17. Extend inboard reach string in front of the dummy and then backward and outboard to the latch plate to generate an arc of the reach envelope of the test dummy's arms. Is the latch plate within the reach envelope?  
     ☒ Yes-Pass,      \_\_\_ No
- ☒ 18. Extend outboard reach string in front of the dummy and then backward and outboard to the latch plate to generate an arc of the reach envelope of the test dummy's arms. Is the latch plate within the reach envelope?  
     ☒ Yes-Pass;      \_\_\_ No
- ☒ 19. Is the latch plate within the inboard (item 17) or outboard (item 18) reach envelope?  
     ☒ Yes-Pass;      \_\_\_ No-FAIL
- ☒ 20. Using the clearance test block, specified in Figure 4, is there sufficient clearance between the vehicle seat and the side of vehicle interior to allow the test block to move unhindered to the latch plate or buckle?  
     ☒ Yes-Pass,      \_\_\_ No-FAIL



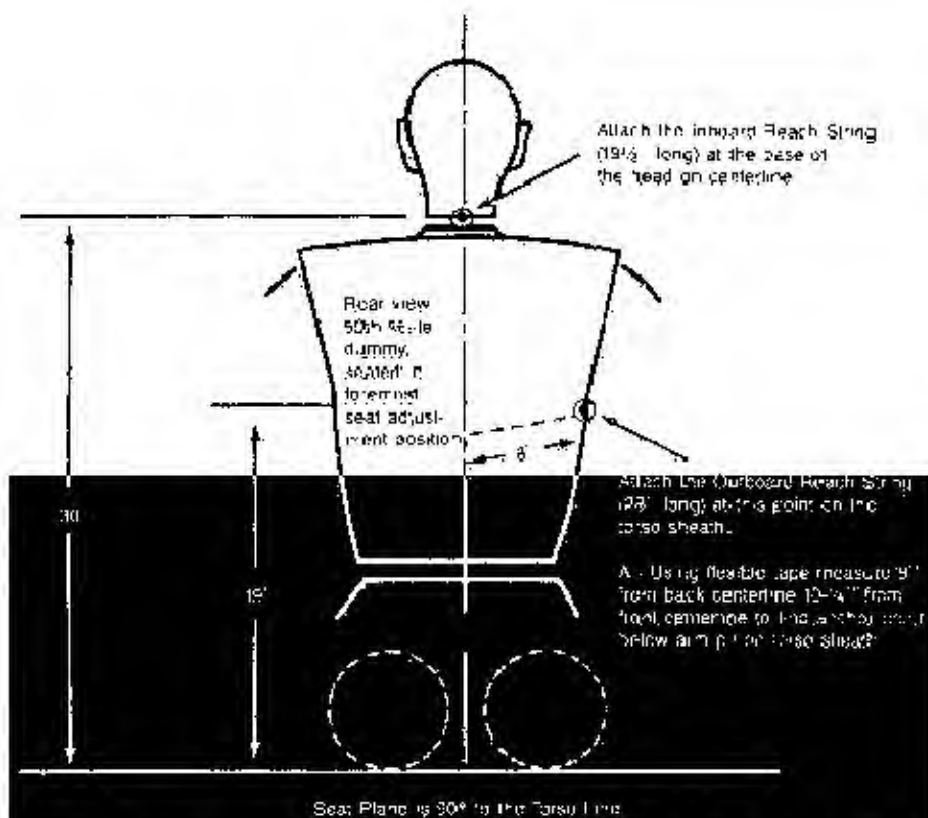


Figure 3. Location of Anchoring Points for Latchplate Reach Limiting Chains or Strings to Test for Latchplate Accessibility Using Subpart E Test Device



**DATA SHEET 11**  
**LATCHPLATE ACCESS (S7.4.4)**

NHTSA No.: C30102

Test Date: 11/14/02

Laboratory: TRC Inc.

Test Technician(s): R. Benavidesw

DESIGNATED SEATING POSITION: Right Front

Test all front outboard seat belts other than those in walk-in van-type vehicles and those at front outboard designated seating positions in passenger cars. Complete a form for each applicable seat belt.

- X 1. Position the seat's adjustable lumbar supports so that the lumbar support is in its lowest, retracted or deflated adjustment position. (S16.2.10.3)  
X N/A - No lumbar adjustment
- X 2. Position any adjustable parts of the seat that provide additional support so that they are in the lowest or most open adjustment position. (S16.2.10.2)  
X N/A - No additional support adjustment
- X 3. If the seat cushion adjusts fore and aft, independent of the seat back, set this adjustment to the full rearward position. (S16.2.10.3.1)  
X N/A - No independent fore-aft seat cushion adjustment
- X 4. If the seat cushion height adjusts independent of the seat back, set this adjustment to the full down position. (S16.2.10.3.1)  
X N/A - No independent seat cushion height adjustment.
- X 5. Put the seat in its full rearward position. (S16.2.10.3.1)  
     N/A - the seat does not have a fore-aft adjustment
- X 6. If the seat height is adjustable, put it in the full down position. (S16.2.10.3.1)  
X N/A - No seat height adjustment
- X 7. Draw a horizontal reference line on the side of the seat cushion
- X 8. Using only the controls that change the seat in the fore-aft direction, mark the fore-aft seat positions. Mark the side of the seat and a reference position directly below on a part of the vehicle that does not adjust. For manual seats, move the seat forward one detent at a time and mark each detent as was done for the full rearward position. For power seats, mark only the full rearward, middle, and full forward positions. Label three of the positions with the following: F for full forward, M for mid-position (if there is no mid position, label the closest adjustment position to the rear of the mid-point), and R for full rearward  
     N/A - The seat does not have a fore-aft adjustment.
- X 9. Using only the controls that change the seat in the fore-aft direction, place the seat in the full rearward position and then place the seat in the forwardmost fore-aft position for this test. (S10.7)
- X 10. If seat adjustments, other than fore-aft, are present and the horizontal reference line is no longer horizontal, use those adjustments to maintain the reference line as closely as possible to the horizontal  
X N/A - No adjustments  
Reference line angle as tested 0°

- ☒ 11. The seat back angle, if adjustable, is set at the manufacturer's nominal design riding position for a 50th percentile adult male in the manner specified by the manufacturer. (S4.5.4.1 (b) and S8.1.3)  
     \_\_\_ N/A No seat back angle adjustment  
     Manufacturer's design seat back angle 15.5°  
     Tested seat back angle 15.5°
- ☒ 12. Position the test dummy using the procedures in Appendix A. (Some modifications to the positioning procedure may need to be made because the seat is in its forward most position. Note on the Appendix A positioning check sheet any deviations necessary to position the Part 572, Subpart E dummy.) Include the positioning check sheet with this form.
- ☒ 13. Position the adjustable seat belt anchorage in the manufacturer's nominal design position for a 50th percentile adult male occupant.
- ☒ 14. Attach the inboard reach string to the base of the head following the instructions on Figure 3.
- ☒ 15. Attach the outboard reach string to the torso sheath following the instructions on Figure 3.
- ☒ 16. Place the latch plate in the stowed position.
- ☒ 17. Extend inboard reach string in front of the dummy and then backward and outboard to the latch plate to generate an arc of the reach envelope of the test dummy's arms. Is the latch plate within the reach envelope?  
     ☒ Yes-Pass,      \_\_\_ No
- ☒ 18. Extend outboard reach string in front of the dummy and then backward and outboard to the latch plate to generate an arc of the reach envelope of the test dummy's arms. Is the latch plate within the reach envelope?  
     ☒ Yes-Pass;      \_\_\_ No
- ☒ 19. Is the latch plate within the inboard (item 17) or outboard (item 18) reach envelope?  
     ☒ Yes-Pass;      \_\_\_ No-FAIL
- ☒ 20. Using the clearance test block, specified in Figure 4, is there sufficient clearance between the vehicle seat and the side of vehicle interior to allow the test block to move unhindered to the latch plate or buckle?  
     ☒ Yes-Pass,      \_\_\_ No-FAIL

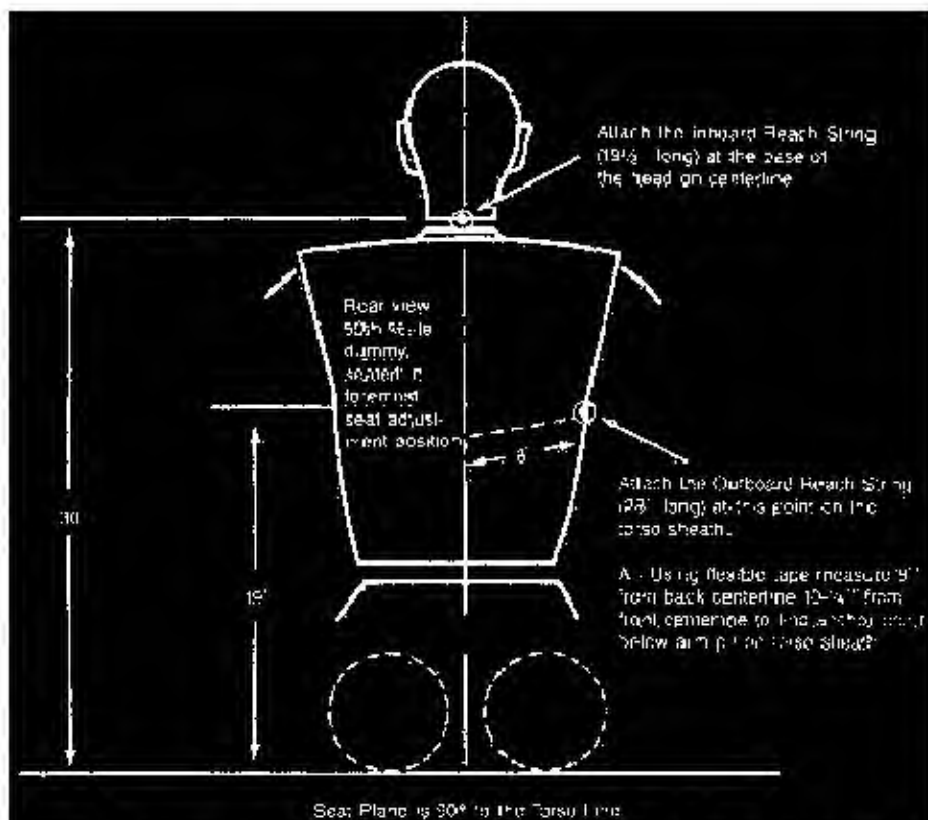
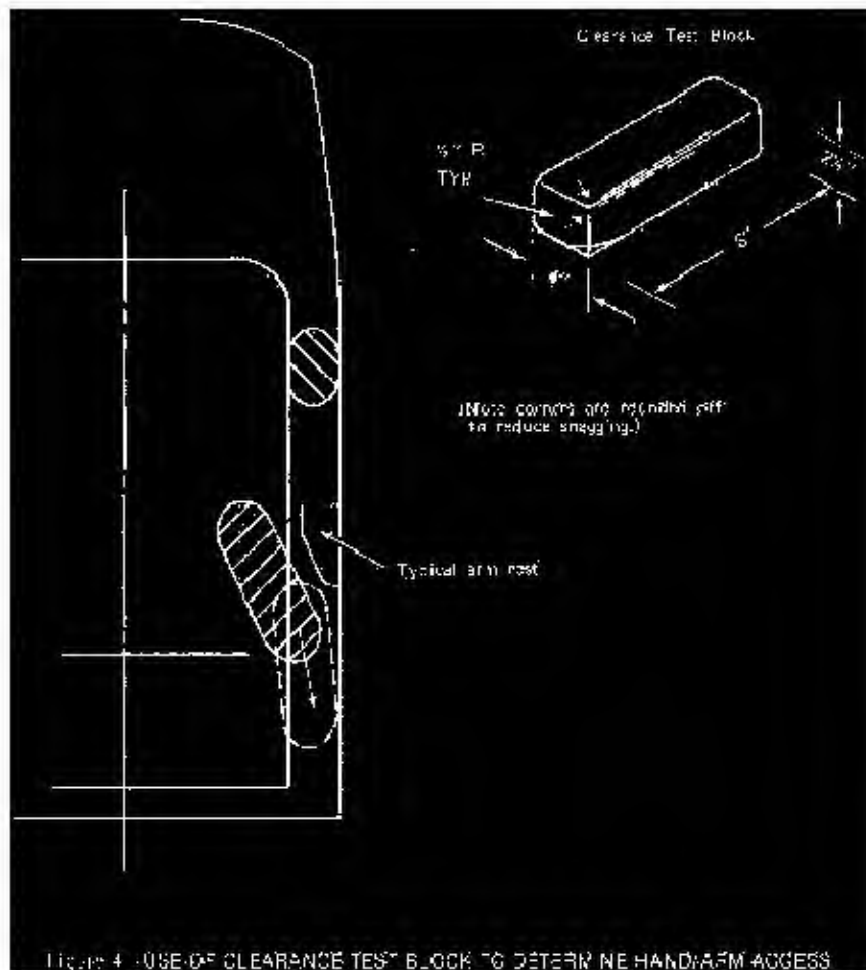


Figure 3. Location of Anchoring Points for Latchplate Reach Limiting Chains or Strings to Test for Latchplate Accessibility Using Subpart E Test Device



**DATA SHEET 12**  
**SEAT BELT RETRACTION (S7.4.5)**

NHTSA No.: C30102

Test Date: 11/14/02

Laboratory: TRC Inc Test Technician(s): R. Benavides

DESIGNATED SEATING POSITION: Left Front

GVWR: 2903 kg/6400 lbs.

Test all front outboard seat belts, except those in walk-in van-type vehicles and those at front outboard designated seating positions in passenger cars. Complete a form for each applicable seat belt.

- ☒ 1. Is the vehicle a passenger car or walk-in van-type vehicle?  
☐ Yes, this form is complete  
☒ No
- ☒ 2. Position the seat's adjustable lumbar supports so that the lumbar support is in its lowest, retracted or deflated adjustment position. (S8.1.3)  
☒ N/A - No lumbar adjustment
- ☒ 3. Position any adjustable parts of the seat that provide additional support so that they are in the lowest or most open adjustment position. (S16.2.10.2)  
☒ N/A - No additional support adjustment
- ☒ 4. If the seat cushion adjusts fore and aft, independent of the seat back, set this adjustment to the full rearward position. (S16.2.10.3.1)  
☒ N/A - No independent fore-aft seat cushion adjustment
- ☒ 5. If the seat cushion height adjusts independent of the seat back, set this adjustment to the full down position. (S16.2.10.3.1)  
☒ N/A - No independent seat cushion height adjustment.
- ☒ 6. Put the seat in its full rearward position.  
☐ N/A - the seat does not have a fore-aft adjustment
- ☒ 7. If the seat height is adjustable, put it in the full down position. (S8.1.2)  
☒ N/A - No seat height adjustment
- ☒ 7 Draw a horizontal line on the side of the seat cushion.
- ☒ 8. Using only the controls that change the seat in the fore-aft direction, mark the fore-aft seat positions. Mark the side of the seat and a reference position directly below on a part of the vehicle that does not adjust. For manual seats, move the seat forward one detent at a time and mark each detent as was done for the full rearward position. For power seats, mark only the full rearward, middle, and full forward positions. Label three of the positions with the following: F for full forward, M for mid position (if there is no mid position, label the closest adjustment position to the rear of the mid-point), and R for full rearward.  
☐ N/A - The seat does not have a fore-aft adjustment.
- ☒ 9. Using only the controls that change the seat in the fore-aft direction, place the seat in the middle fore-aft position. (S8.1.2)  
If there is no mid position, put the seat in the closest adjustment position to the rear of the midpoint. Describe the location of the seat: Mid
- ☒ 10. If seat adjustments, other than fore-aft, are present and the reference line is no longer horizontal, use those adjustments to maintain the reference line as closely as possible to the horizontal. (S16.2.10.3.2)  
☒ N/A - No seat adjustments  
Reference angle as tested 0°

- ☒ 11. The seat back angle, if adjustable, is set at the manufacturer's nominal design riding position for a 50th percentile adult male in the manner specified by the manufacturer. (S8.1.3)  
     \_\_\_ N/A No seat back angle adjustment  
     Manufacturer's design seat back angle 15.5°  
     Tested seat back angle 15.5°
- ☒ 12. If adjustable, set the head restraint at the full up and full forward position. (S8.1.3) Any adjustment of the head restraint shall be used to position it full forward. For example, if it rotates, rotate it such that the head restraint extends as far forward as possible.  
     \_\_\_ N/A - No head restraint adjustment
- ☒ 13. Place any adjustable seat belt anchorages at the vehicle manufacturer's nominal design position for a 50th percentile adult male occupant. (S8.1.3)  
     \_\_\_ N/A No adjustable upper seat belt anchorage  
     Manufacturer's specified anchorage position \_\_\_\_\_  
     Tested anchorage position \_\_\_\_\_
- ☒ 14. Is the driver seat a bucket seat?  
     ☒ Yes, go to 14.1 and skip 14.2.  
     \_\_\_ No, go to 14.2 and skip 14.1.
- ☒ 14.1 Bucket seats:  
     Locate and mark a vertical Plane B through the longitudinal centerline of the seat. The longitudinal centerline of a bucket seat cushion is determined at the widest part of the seat cushion. Measure perpendicular to the longitudinal centerline of the vehicle.  
     Record the width of the seat. 565 mm  
     Record the distance from the edge of the seat to Plane B. 267 mm
- \_\_\_ 14.2 Bench seats (including split bench seats):  
     \_\_\_ Driver seat: Locate and mark a vertical Plane B through the center of the steering wheel parallel to the vehicle longitudinal centerline.  
     \_\_\_ Passenger seat: Locate and mark a vertical longitudinal Plane B on the seat that is the same distance from the longitudinal centerline of the vehicle as the center of the steering wheel.  
     Distance from the vehicle centerline to the center of the steering wheel \_\_\_\_\_  
     Distance from the vehicle centerline to Plane B \_\_\_\_\_
- ☒ 15. Stow outboard armrests that are capable of being stowed. (S7.4.5)
- ☒ 16. Remove the arms of a Subpart E dummy and place it in the seat such that the midsagittal plane is coincident with Plane B and the upper torso rests against the seat back. (S10.4.1.1 & S10.4.1.2)
- ☒ 17. Rest the thighs on the seat cushion.
- ☒ 18. Position the H-point of the dummy within 0.5 inch of the vertical dimension and 0.5 inch of the horizontal dimension of a point 0.25 inch below the H-point determined by using the equipment and procedures specified in SAE J826 (APR 1980). (S10.4.2.1) Then measure the pelvic angle with respect to the horizontal using the pelvic angle gage. Adjust the dummy position until these three measurements are within the specifications. (S10.4.2.1 and S10.4.2.2)  
     \_\_\_ horizontal inches from the point 0.25 below the determined H-point (0.5 inch max.) (S10.4.2.1) Measurement not recorded  
     \_\_\_ vertical inches from the point 0.25 below the determined H-point (0.5 inch max.) (S10.4.2.1) Measurement not recorded  
     \_\_\_ pelvic angle (20° to 25°) (S10.4.2.2) Measurement not recorded
- ☒ 19. Set the distance between the outboard knee clevis flange surfaces at 10.6 inches.  
     ☒ measured distance (10.6 inches) (S10.5)



- ☒ 20. To the extent practicable keep the thighs and the legs in a vertical plane (S10.5) and rest the thighs on the seat cushion while resting the feet on the floorpan or toe board.
- ☒ 21. Fasten the seat belt around the dummy.
- ☒ 22. Remove all slack from the lap belt portion. (S10.9)
- ☐ 23. Pull the upper torso webbing out of the retractor and allow it to retract; repeat this four times. (S10.9)
- ☒ 24. Apply a 2 to 4 pound tension load to the lap belt. (S10.9)  
☒ 3 pound load applied
- ☒ 25. Is the belt system equipped with a tension relieving device?  
☐ Yes, continue  
☒ No, go to 26
- ☐ 25.1 Introduce the maximum amount of slack into the upper torso belt that is recommended by the vehicle manufacturer in the vehicle owner's manual (S10.9)
- ☒ 26. Check the statement that applies to this test vehicle:
- ☐ 26.1 The torso and lap belt webbing of the seat belt system automatically retracts to a stowed position when the adjacent vehicle door is in an open position and the seat belt latch plate is released. ☐ Pass
- ☒ 26.2 The torso and lap belt webbing of the seat belt system automatically retracts when the seat belt latch plate is released. ☒ Pass
- ☐ 26.3 Neither A or B apply ☐ FAIL
- ☒ 27. With the webbing and hardware in the stowed position are the webbing and hardware prevented from being pinched when the door is closed?  
☒ Yes-Pass; ☐ No-FAIL
- ☒ 28. If this test vehicle has an open body (without doors) and has a belt system with a tension-relieving device, does the belt system fully retract when the tension-relieving device is deactivated?  
☒ N/A  
☐ Yes-Pass; ☐ No-FAIL

**DATA SHEET 12**  
**SEAT BELT RETRACTION (S7.4.5)**

NHTSA No.: C30102

Test Date: 11/14/02

Laboratory: TRC Inc.

Test Technician(s): R. Benavides

DESIGNATED SEATING POSITION: Right Front

GVWR: 2903 kg/6400 lbs.

Test all front outboard seat belts, except those in walk-in van-type vehicles and those at front outboard designated seating positions in passenger cars. Complete a form for each applicable seat belt.

- X 1. Is the vehicle a passenger car or walk-in van-type vehicle?  
         Yes, this form is complete  
    X No
- X 2. Position the seat's adjustable lumbar supports so that the lumbar support is in its lowest, retracted or deflated adjustment position. (S8.1.5)  
    X N/A - No lumbar adjustment
- X 3. Position any adjustable parts of the seat that provide additional support so that they are in the lowest or most open adjustment position. (S16.2.10.2)  
    X N/A - No additional support adjustment
- X 4. If the seat cushion adjusts fore and aft, independent of the seat back, set this adjustment to the full rearward position. (S16.2.10.3.1)  
    X N/A - No independent fore-aft seat cushion adjustment
- X 5. If the seat cushion height adjusts independent of the seat back, set this adjustment to the full down position. (S16.2.10.3.1)  
    X N/A - No independent seat cushion height adjustment.
- X 6. Put the seat in its full rearward position.  
         N/A - the seat does not have a fore-aft adjustment
- X 7. If the seat height is adjustable, put it in the full down position. (S8.1.2)  
    X N/A - No seat height adjustment
- X 7 Draw a horizontal line on the side of the seat cushion.
- X 8. Using only the controls that change the seat in the fore-aft direction, mark the fore-aft seat positions. Mark the side of the seat and a reference position directly below on a part of the vehicle that does not adjust. For manual seats, move the seat forward one detent at a time and mark each detent as was done for the full rearward position. For power seats, mark only the full rearward, middle, and full forward positions. Label three of the positions with the following: F for full forward, M for mid position (if there is no mid position, label the closest adjustment position to the rear of the mid-point), and R for full rearward.  
         N/A - The seat does not have a fore-aft adjustment
- X 9. Using only the controls that change the seat in the fore-aft direction, place the seat in the middle fore-aft position. (S8.1.2)  
    If there is no mid position, put the seat in the closest adjustment position to the rear of the midpoint. Describe the location of the seat: Mid
- X 10. If seat adjustments, other than fore-aft, are present and the reference line is no longer horizontal, use those adjustments to maintain the reference line as closely as possible to the horizontal. (S16.2.10.3.2)  
    X N/A - No seat adjustments  
    Reference angle as tested: 0°

- ☒ 11. The seat back angle, if adjustable, is set at the manufacturer's nominal design riding position for a 50th percentile adult male in the manner specified by the manufacturer. (S8.1.3)  
     \_\_\_ N/A - No seat back angle adjustment  
     Manufacturer's design seat back angle 15.5°  
     Tested seat back angle 15.5°
- ☒ 12. If adjustable, set the head restraint at the full up and full forward position. (S8.1.3) Any adjustment of the head restraint shall be used to position it full forward. For example, if it rotates, rotate it such that the head restraint extends as far forward as possible.  
     \_\_\_ N/A - No head restraint adjustment
- ☒ 13. Place any adjustable seat belt anchorages at the vehicle manufacturer's nominal design position for a 50th percentile adult male occupant. (S8.1.3)  
     ☒ N/A - No adjustable upper seat belt anchorage  
     Manufacturer's specified anchorage position \_\_\_\_\_  
     Tested anchorage position \_\_\_\_\_
- ☒ 14. Is the driver seat a bucket seat?  
     ☒ Yes, go to 14.1 and skip 14.2.  
     \_\_\_ No, go to 14.2 and skip 14.1.
- ☒ 14.1 Bucket seats:  
     Locate and mark a vertical Plane B through the longitudinal centerline of the seat. The longitudinal centerline of a bucket seat cushion is determined at the widest part of the seat cushion. Measure perpendicular to the longitudinal centerline of the vehicle.  
     Record the width of the seat. 359 mm  
     Record the distance from the edge of the seat to Plane B. 274 mm
- \_\_\_ 14.2 Bench seats (including split bench seats):  
     \_\_\_ Driver seat: Locate and mark a vertical Plane B through the center of the steering wheel parallel to the vehicle longitudinal centerline.  
     \_\_\_ Passenger seat: Locate and mark a vertical longitudinal Plane B on the seat that is the same distance from the longitudinal centerline of the vehicle as the center of the steering wheel.  
     Distance from the vehicle centerline to the center of the steering wheel \_\_\_\_\_  
     Distance from the vehicle centerline to Plane B \_\_\_\_\_
- ☒ 15. Stow outboard armrests that are capable of being stowed. (S7.4.5)
- ☒ 16. Remove the arms of a Subpart E dummy and place it in the seat such that the midsagittal plane is coincident with Plane B and the upper torso rests against the seat back. (S10.4.1.1 & S10.4.1.2)
- ☒ 17. Rest the thighs on the seat cushion.
- ☒ 18. Position the H-point of the dummy within 0.5 inch of the vertical dimension and 0.5 inch of the horizontal dimension of a point 0.25 inch below the H-point determined by using the equipment and procedures specified in SAE J826 (APR 1980). (S10.4.2.1) Then measure the pelvic angle with respect to the horizontal using the pelvic angle gage. Adjust the dummy position until these three measurements are within the specifications. (S10.4.2.1 and S10.4.2.2)  
     \_\_\_ horizontal inches from the point 0.25 below the determined H-point (0.5 inch max.) (S10.4.2.1) Measurement not recorded  
     \_\_\_ vertical inches from the point 0.25 below the determined H-point (0.5 inch max.) (S10.4.2.1) Measurement not recorded  
     ☒ pelvic angle (20° to 25°) (S10.4.2.2) Measurement not recorded
- ☒ 19. Set the distance between the outboard knee clevis flange surfaces at 10.6 inches.  
     \_\_\_ measured distance (10.6 inches) (S10.5)

- ☒ 20. To the extent practicable keep the thighs and the legs in a vertical plane (S10.5) and rest the thighs on the seat cushion while resting the feet on the floorpan or toe board.
- ☒ 21. Fasten the seat belt around the dummy.
- ☒ 22. Remove all slack from the lap belt portion. (S10.9)
- ☒ 23. Pull the upper torso webbing out of the retractor and allow it to retract; repeat this four times. (S10.9)
- ☒ 24. Apply a 2 to 4 pound tension load to the lap belt. (S10.9)  
       3 pound load applied
- ☒ 25. Is the belt system equipped with a tension relieving device?  
       \_\_\_ Yes, continue  
       ☒ No, go to 26
- \_\_\_ 25.1 Introduce the maximum amount of slack into the upper torso belt that is recommended by the vehicle manufacturer in the vehicle owner's manual (S10.9)
- ☒ 26. Check the statement that applies to this test vehicle:
- \_\_\_ 26.1 The torso and lap belt webbing of the seat belt system automatically retracts to a stowed position when the adjacent vehicle door is in an open position and the seat belt latch plate is released. \_\_\_ Pass
- ☒ 26.2 The torso and lap belt webbing of the seat belt system automatically retracts when the seat belt latch plate is released. ☒ Pass
- 26.3 Neither A or B apply. FAIL
- ☒ 27. With the webbing and hardware in the stowed position are the webbing and hardware prevented from being pinched when the door is closed?  
       ☒ Yes-Pass; \_\_\_ No-FAIL
- ☒ 28. If this test vehicle has an open body (without doors) and has a belt system with a tension-relieving device, does the belt system fully retract when the tension-relieving device is deactivated?  
       ☒ N/A  
       \_\_\_ Yes-Pass; \_\_\_ No-FAIL

**DATA SHEET 13**  
**SEAT BELT GUIDES AND HARDWARE (S7.4.6)**

NHTSA No.: C30102

Test Date: 11/14/02

Laboratory: TRC Inc.

Test Technician(s): R. Benavides

DESIGNATED SEATING POSITION: Left Front

Test seat belts except those in walk-in van-type vehicles and those at front outboard designated seating positions in passenger cars. Complete a form for each applicable seat belt.

- ☒ 1. Is the seat cushion movable so that the seat back serves a function other than seating? (S7.4.6.1 (b))  
☐ Yes; this form is complete  
☒ No; got to 2
- ☒ 2. Is the seat removable? (S7.4.6.1(b))  
☐ Yes; this form is complete  
☒ No; got to 3
- ☒ 3. Is the seat movable so that the space formerly occupied by the seat can be used for a secondary function? (S7.4.6.1(b))  
☐ Yes; this form is complete  
☒ No; got to 4
- ☒ 4. Is the webbing designed to pass through the seat cushion or between the seat cushion and seat back? (S7.4.6.1(a))  
☐ Yes; go to 5.  
☒ No; this form is complete.
- ☐ 5. Does one of the following three parts, the seat belt latch plate, the buckle, or the seat belt webbing, stay on top of or above the seat cushion under normal conditions (i.e., conditions other than when belt hardware is intentionally pushed behind the seat by a vehicle occupant)? (S7.4.6.1(a))  
☐ Yes-Pass; ☐ No-FAIL.  
Identify the part(s) on top or above the seat  
☐ seat belt latch plate; ☐ buckle; ☐ seat belt webbing
- ☐ 6. Are the remaining two seat belt parts accessible under normal conditions?  
☐ Yes-Pass; ☐ No-FAIL
- ☐ 7. The buckle and latch plate do not pass through the guides or conduits provided and fall behind the seat when the belt is completely retracted or, if the belt is nonretractable, the belt is unlatched. (S7.4.6.2)  
☐ Yes-Pass; ☐ No-FAIL.
- ☐ 8. The buckle and latch plate do not pass through the guides or conduits provided and fall behind the seat when the seat is moved to any position to which it is designed to be adjusted. (S7.4.6.2)  
☐ Yes-Pass; ☐ No-FAIL
- ☐ 9. The buckle and latch plate do not pass through the guides or conduits provided and fall behind the seat when the seat back, if foldable, is folded forward as far as possible and then moved backward into position. (S7.4.6.2)  
☐ Yes-Pass; ☐ No-FAIL.
- ☐ 10. Is the inboard receptacle end of the seat belt assembly, installed in the front outboard designated seating position, accessible with the center armrest in any position to which it can be adjusted (without moving the armrest)? (S7.4.6.2)  
☐ Yes-Pass; ☐ No-FAIL



**DATA SHEET 13**  
**SEAT BELT GUIDES AND HARDWARE (S7.4.6)**

NHTSA No.: C30102

Test Date: 11/14/02

Laboratory: TRC Inc.

Test Technician(s): R. Benavides

DESIGNATED SEATING POSITION: Center Front

Test seat belts except those in walk-in van-type vehicles and those at front outboard designated seating positions in passenger cars. Complete a form for each applicable seat belt.

- ☒ 1. Is the seat cushion movable so that the seat back serves a function other than seating? (S7.4.6.1 (b))  
☐ Yes; this form is complete  
☒ No; got to 2
- ☒ 2. Is the seat removable? (S7.4.6.1(b))  
☐ Yes; this form is complete  
☒ No; got to 3
- ☒ 3. Is the seat movable so that the space formerly occupied by the seat can be used for a secondary function? (S7.4.6.1(b))  
☐ Yes; this form is complete  
☒ No; got to 4
- ☒ 4. Is the webbing designed to pass through the seat cushion or between the seat cushion and seat back? (S7.4.6.1(a))  
☐ Yes; go to 5.  
☒ No; this form is complete.
- ☐ 5. Does one of the following three parts, the seat belt latch plate, the buckle, or the seat belt webbing, stay on top of or above the seat cushion under normal conditions (i.e., conditions other than when belt hardware is intentionally pushed behind the seat by a vehicle occupant)? (S7.4.6.1(a))  
☐ Yes-Pass; ☐ No-FAIL.  
Identify the part(s) on top or above the seat  
☐ seat belt latch plate; ☐ buckle; ☐ seat belt webbing
- ☐ 6. Are the remaining two seat belt parts accessible under normal conditions?  
☐ Yes-Pass; ☐ No-FAIL
- ☐ 7. The buckle and latch plate do not pass through the guides or conduits provided and fall behind the seat when the belt is completely retracted or, if the belt is nonretractable, the belt is unlatched. (S7.4.6.2)  
☐ Yes-Pass; ☐ No-FAIL.
- ☐ 8. The buckle and latch plate do not pass through the guides or conduits provided and fall behind the seat when the seat is moved to any position to which it is designed to be adjusted. (S7.4.6.2)  
☐ Yes-Pass; ☐ No-FAIL
- ☐ 9. The buckle and latch plate do not pass through the guides or conduits provided and fall behind the seat when the seat back, if foldable, is folded forward as far as possible and then moved backward into position. (S7.4.6.2)  
☐ Yes-Pass; ☐ No-FAIL.
- ☐ 10. Is the inboard receptacle end of the seat belt assembly, installed in the front outboard designated seating position, accessible with the center armrest in any position to which it can be adjusted (without moving the armrest)? (S7.4.6.2)  
☐ Yes-Pass; ☐ No-FAIL

**DATA SHEET 13**  
**SEAT BELT GUIDES AND HARDWARE (S7.4.6)**

NHTSA No.: C30102

Test Date: 11/14/02

Laboratory: TRC Inc.

Test Technician(s): R. Benavides

DESIGNATED SEATING POSITION: Right Front

Test seat belts except those in walk-in van-type vehicles and those at front outboard designated seating positions in passenger cars. Complete a form for each applicable seat belt.

- ☒ 1. Is the seat cushion movable so that the seat back serves a function other than seating? (S7.4.6.1 (b))  
☐ Yes; this form is complete  
☒ No; got to 2
- ☒ 2. Is the seat removable? (S7.4.6.1(b))  
☐ Yes; this form is complete  
☒ No; got to 3
- ☒ 3. Is the seat movable so that the space formerly occupied by the seat can be used for a secondary function? (S7.4.6.1(b))  
☐ Yes; this form is complete  
☒ No; got to 4
- ☒ 4. Is the webbing designed to pass through the seat cushion or between the seat cushion and seat back? (S7.4.6.1(a))  
☐ Yes; go to 5.  
☒ No; this form is complete.
- ☐ 5. Does one of the following three parts, the seat belt latch plate, the buckle, or the seat belt webbing, stay on top of or above the seat cushion under normal conditions (i.e., conditions other than when belt hardware is intentionally pushed behind the seat by a vehicle occupant)? (S7.4.6.1(a))  
☐ Yes-Pass; ☐ No-FAIL.  
Identify the part(s) on top or above the seat  
☐ seat belt latch plate; ☐ buckle; ☐ seat belt webbing
- ☐ 6. Are the remaining two seat belt parts accessible under normal conditions?  
☐ Yes-Pass; ☐ No-FAIL
- ☐ 7. The buckle and latch plate do not pass through the guides or conduits provided and fall behind the seat when the belt is completely retracted or, if the belt is nonretractable, the belt is unlatched. (S7.4.6.2)  
☐ Yes-Pass; ☐ No-FAIL.
- ☐ 8. The buckle and latch plate do not pass through the guides or conduits provided and fall behind the seat when the seat is moved to any position to which it is designed to be adjusted. (S7.4.6.2)  
☐ Yes-Pass; ☐ No-FAIL
- ☐ 9. The buckle and latch plate do not pass through the guides or conduits provided and fall behind the seat when the seat back, if foldable, is folded forward as far as possible and then moved backward into position. (S7.4.6.2)  
☐ Yes-Pass; ☐ No-FAIL.
- ☐ 10. Is the inboard receptacle end of the seat belt assembly, installed in the front outboard designated seating position, accessible with the center armrest in any position to which it can be adjusted (without moving the armrest)? (S7.4.6.2)  
☐ Yes-Pass; ☐ No-FAIL

# DATA SHEET 26

## VEHICLE WEIGHT, FUEL TANK, AND ATTITUDE DATA

NHTSA No.: C30102

Test Date: 11/19/02

Laboratory: TRC Inc Test Technician(s): B. Miller, N. McEwen, D. Summers, J. Jenkins

Impact Angle: 0° Belted Dummies: Yes X No

Test Speed: X 32 to 40 km/h 0 0 to 48 km/h 0 0 to 56 km/h

Driver Dummy: 5<sup>th</sup> female X 50<sup>th</sup> male Passenger Dummy: 5<sup>th</sup> female X 50<sup>th</sup> male

- X 1. Fill the transmission with transmission fluid to the satisfactory range.
- X 2. Drain fuel from vehicle.
- X 3. Run the engine until fuel remaining in the fuel delivery system is used and the engine stops.
- X 4. Record the useable fuel tank capacity supplied by the COTR. 34 gallons (128.7 L)
- X 5. Record the fuel tank capacity supplied in the owner's manual. 34 gallons (128.7 L)
- 6.1 Using purple dyed Stoddard solvent having the physical and chemical properties of Type I solvent or cleaning fluid, Table 1, ASTM Standard D484-71, "Standard Specifications for Hydrocarbon Dry-cleaning Solvents," fill the fuel tank with an amount equal to the useable capacity provided by the COTR.  
Amount added \_\_\_\_\_
- X 7. Crank the engine to fill the fuel delivery system with Stoddard solvent.
- X 8. Fill the coolant system to capacity.
- X 9. Fill the engine with motor oil to the max mark on the dip stick.
- X 10. Fill the brake reservoir with brake fluid to its normal level.
- X 11. Fill the windshield washer reservoir to capacity.
- X 12. Inflate the tires to the tire pressure on the tire placard. If no tire placard is available, inflate the tires to the recommended pressure in the owner's manual.  
Tire placard pressure RF 35; LF 35; RR 35; LR 35  
Owner's manual pressure<sup>2</sup> RF N/A; LF N/A; RR N/A; LR N/A  
Actual inflated pressure RF 35; LF 35; RR 35; LR 35
- X 13. Record the vehicle weight at each wheel to determine the unloaded vehicle weight (UVW), i.e. "as delivered" weight).  
Right Front - 556.0 kg Right Rear - 409.5 kg  
Left Front - 611.0 kg Left Rear - 414.5 kg  
TOTAL FRONT - 1167.0 kg TOTAL REAR - 824.0 kg  
% Total Weight = 58.6 % % Total Weight = 41.4 %  
UVW = TOTAL FRONT PLUS TOTAL REAR = 1991.0 kg
- X 14. UVW Test Vehicle Attitude: (all dimensions in millimeters)
  - X 14.1 Mark a point on the vehicle above the center of each wheel.
  - X 14.2 Place the vehicle on a level surface.
  - X 14.3 Measure perpendicular to the level surface to the 4 points marked on the body and record the measurements  
RF 845; LF 835; RR 918; LR 909



- X 15. Calculate the Rated Cargo and Luggage Weight (RCLW).
- X 15.1 Does the vehicle have the vehicle capacity weight (VCW) on the certification label or tire placard?  
       Yes, go to 15.3.  
X        No, go to 15.2.
- X 15.2 VCW = Gross Vehicle Weight - UVW  
VCW = 2903.0 - 1991.0 = 912.0
- X 15.3 VCW = 912.0
- X 15.4 Does the certification or tire placard contain the Designated Seating Capacity (DSC)?  
       Yes, go to 15.6.  
X        No, go to 15.5
- X 15.5 DSC = Total number of seat belt assemblies = 3
- X 15.6 DSC = 3
- X 15.7 RCLW = VCW - (68 kg x DSC) = 912.0 - (68 kg x 3) = 708.0
- X 15.8 Is the vehicle certified as a truck, MPV or bus (see the certification label on the door jamb)?  
X Yes, the maximum RCLW is 136 kg  
       No, use the RCLW calculated in 15.7.
- X 16. Fully Loaded Weight (100% fuel fill)
- X 16.1 Place the appropriate test dummy in both front outboard seating positions.  
Driver:        5<sup>th</sup> female X 50<sup>th</sup> male  
Passenger:        5<sup>th</sup> female X 50<sup>th</sup> male
- X 16.2 Load the vehicle with the RCLW from 15.7 or 15.8 whichever is applicable.
- X 16.3 Place the RCLW in the cargo area. Center the load over the longitudinal centerline of the vehicle. (S8.1.1 (d))
- X 16.4 Record the vehicle weight at each wheel to determine the Fully Loaded Weight.
- |                |   |                  |                |   |                  |
|----------------|---|------------------|----------------|---|------------------|
| Right Front    | = | <u>609.0</u> kg  | Right Rear     | = | <u>519.5</u> kg  |
| Left Front     | = | <u>659.5</u> kg  | Left Rear      | = | <u>519.0</u> kg  |
| TOTAL FRONT    | = | <u>1268.5</u> kg | TOTAL REAR     | = | <u>1038.5</u> kg |
| % Total Weight | = | <u>55.0</u> %    | % Total Weight | = | <u>45.0</u> %    |
| % GVW          | = | <u>43.7</u> %    | % GVW          | = | <u>35.8</u> %    |
- FULLY LOADED WEIGHT = TOTAL FRONT + TOTAL REAR = 2307.0 kg
- X 17. Fully Loaded Test Vehicle Attitude (all dimensions in millimeters)
- X 17.1 Place the vehicle on a level surface.
- X 17.2 Measure perpendicular to the level surface to the 4 points marked on the body (see 14.1 above) and record the measurements  
RF 832 ; LF 827 ; RR 882 ; LR 873
- X 18. Calculate the test weight range (94% fuel fill).
- X 18.1 Calculated Test Weight = Fully Loaded Condition (See 16.4 above) - ((.06 x useable fuel tank capacity) x 0.79 kg/liter)  
Calculated Test Weight = 2307.0 - (.06 x 128.7 l x 0.79 kg/l) = 2300.9 kg
- X 18.2 Test Weight Range = Calculated Test Weight (- 4.5 kg, + 9 kg)  
Max. Weight = Calculated Test Weight + 4.5 kg = 2296.4  
Min. Weight = Calculated Test Weight - 9 kg = 2291.9
- X 19. Remove the RCLW from the cargo area.

- |                |   |               |    |                |   |               |    |
|----------------|---|---------------|----|----------------|---|---------------|----|
| Right Front    | - | <u>624.8</u>  | kg | Right Rear     | - | <u>519.6</u>  | kg |
| Left Front     | - | <u>636.8</u>  | kg | Left Rear      | - | <u>514.5</u>  | kg |
| TOTAL FRONT    | - | <u>1261.6</u> | kg | TOTAL REAR     | - | <u>1034.1</u> | kg |
| % Total Weight | - | <u>48.7</u>   | %  | % Total Weight | - | <u>51.3</u>   | %  |
| % GVW          | - | <u>43.5</u>   | %  | % GVW          | - | <u>35.6</u>   | %  |

TOTAL FRONT PLUS TOTAL REAR - 2295.7 kg

- 021119-1

X 29. Summary of test attitude

X 29.1

AS DELIVERED: RF 845 ; LF 835 ; RR 918 ; LR 909

AS TESTED: RF 830 ; LF 822 ; RR 878 ; LR 871

FULLY LOADED: RF 832 ; LF 827 ; RR 882 ; LR 873

X 29.2 Is the "as tested" test attitude equal to or between the "fully loaded" and "as delivered" attitude?

     Yes

X No, explain why not. Approved by COTR.

---

<sup>1</sup> At this step the gasoline in the fuel tank was topped off (Stoddard was not introduced until after fully loaded weight and attitudes were obtained). The exact amount of fuel in the tank was unknown.

<sup>2</sup> The Owner's Manual said to see Certification/ Fire Label for tire pressure

<sup>3</sup> At this step Stoddard solvent was introduced into the drained fuel tank. 0.94 x 128.7 liters, a total of 121.0 liters was added.

**DATA SHEET 27**  
**Vehicle Accelerometer Location**

NHTSA No.: C30102

Test Date: 11/19/02

Laboratory: TRC Inc.

Test Technician(s): D. Summers

Impact Angle: 0°

Belted Dummies:      Yes   X   No

Test Speed:   X   32 to 40 km/h

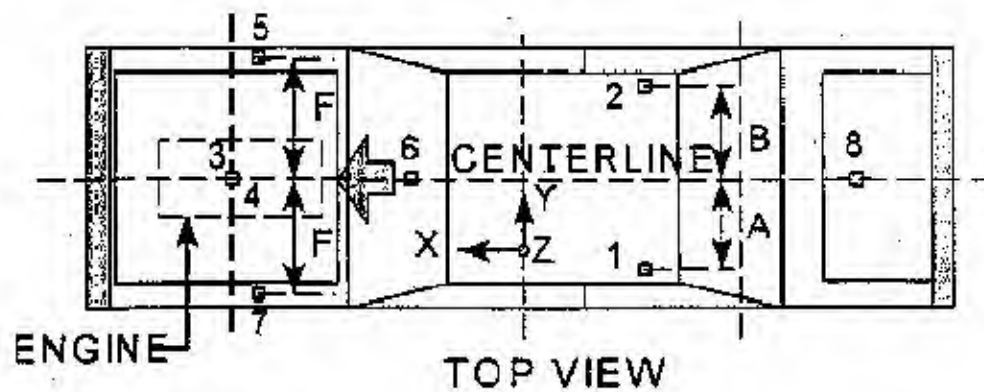
     0 to 48 km/h

     0 to 56 km/h

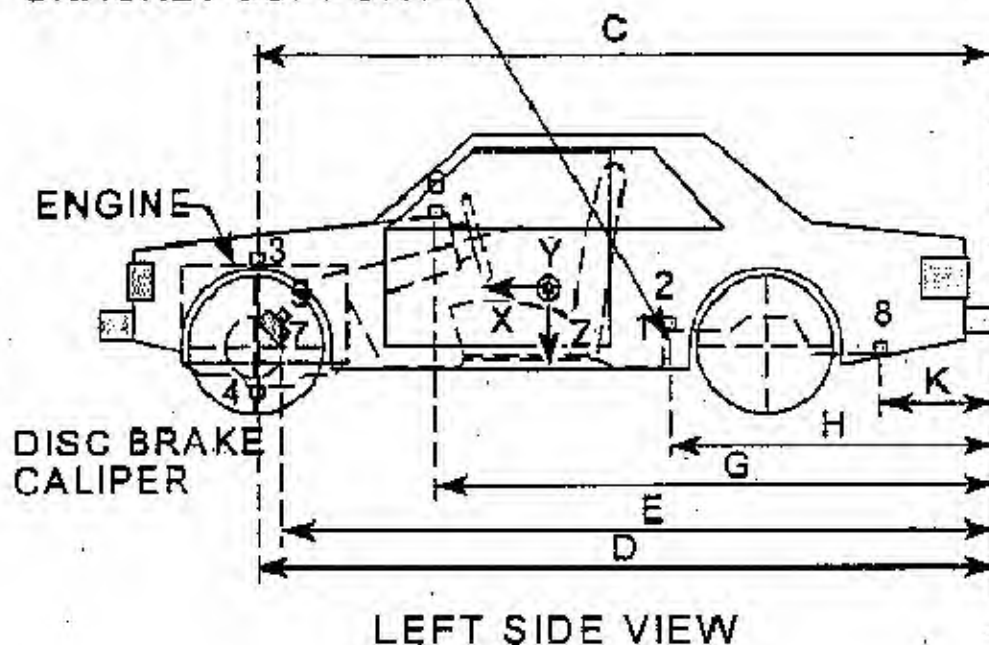
Driver Dummy:      5<sup>th</sup> female   X   50<sup>th</sup> male Passenger Dummy:      5<sup>th</sup> female   X   50<sup>th</sup> male

- X   1. Find the location where the vertical plane parallel to the longitudinal centerline of the vehicle and through the center of the left front outboard seating position intersects the left rear seat cross member. Install an accelerometer at this intersection on the rear seat cross member to record x-direction accelerations. Record the location on the following chart.
- X   2. Find the location where the vertical plane parallel to the longitudinal centerline of the vehicle and through the center of the right front outboard seating position intersects the right rear seat cross member. Install an accelerometer at this intersection on the rear seat cross member to record x-direction accelerations. Record the location on the following chart.
- X   3. Find the location where a vertical plane through the longitudinal centerline of the vehicle and a vertical transverse plane through the center of the two wheels on opposite sides of the engine intersect at the top of the engine. Install an accelerometer at this intersection to record x-direction accelerations. Record the location on the following chart.
- X   4. Find the location where a vertical plane through the longitudinal centerline of the vehicle and a vertical transverse plane through the center of the two wheels on opposite sides of the engine intersect the bottom of the engine. Install an accelerometer at this intersection to record x-direction accelerations. Record the location on the following chart.
- X   5. Install an accelerometer on the right front brake caliper to record x-direction accelerations. Record the location on the following chart.
- X   6. Find the location where a vertical plane through the longitudinal centerline of the vehicle intersects the top of the instrument panel. Install an accelerometer at this intersection to record x-direction accelerations. Record the location on the following chart.
- X   7. Install an accelerometer on the left front brake caliper to record x-direction accelerations. Record the location on the following chart.
- X   8. Find the location where a vertical plane through the longitudinal centerline of the vehicle intersects the floor of the trunk. Install an accelerometer on the trunk floor at this intersection to record z-direction accelerations. Record the location on the following chart.

# VEHICLE ACCELEROMETER LOCATION AND DATA SUMMARY



REAR SEAT CUSHION  
ASSY. FRONT ATTACHMENT  
BRACKET SUPPORT



DATA SHEET 27  
VEHICLE ACCELEROMETER LOCATION MEASUREMENTS

<u>DIMENSION</u>	<u>LENGTH (mm)</u>
<b>PRE-TEST VALUES</b>	
<u>A</u>	711
<u>B</u>	673
<u>C</u>	4757
<u>D</u>	4452
<u>E</u>	5067
<u>F</u>	693 left; 706 right
<u>G</u>	4343
<u>H</u>	3068
<u>K</u>	314
<b>POST-TEST VALUES</b>	
<u>A</u>	712
<u>B</u>	673
<u>C</u>	4697
<u>D</u>	4457
<u>E</u>	4497 left; 4517 right
<u>F</u>	691 left; 691 right
<u>G</u>	3813
<u>H</u>	2988
<u>K</u>	307

REMARKS



**DATA SHEET 28**  
**Photographic Targets**

NHTSA No.: C30102

Test Date: 11/14/02

Laboratory: TRC Inc.

Test Technician(s): D. Summers, N. Echeverria

Impact Angle: 0° Offset percentage: 0 Belted Dummies:       
Yes      X      No     

Test Speed:      X      32 to 40 km/h      0 to 48 km/h      0 to 56 km/h

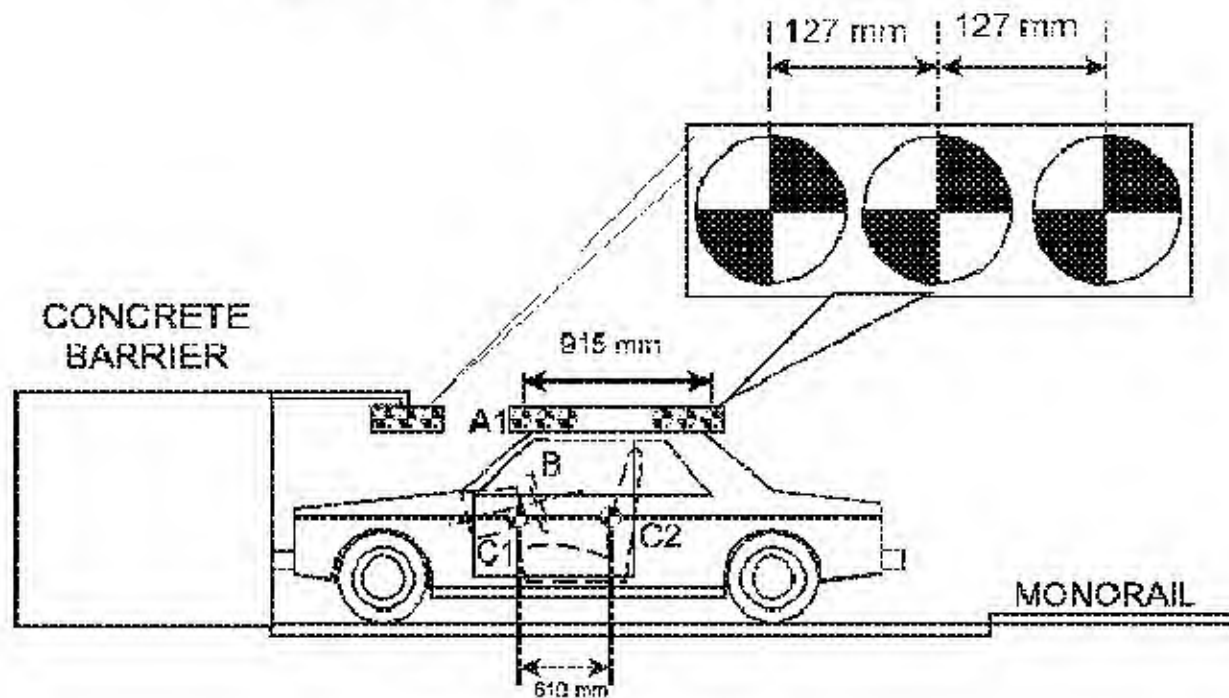
Driver Dummy:      5<sup>th</sup> female      X      50<sup>th</sup> male Passenger Dummy:      5<sup>th</sup> female      X      50<sup>th</sup> male

1. FMVSS 208 vehicle targeting requirements (See Figures 28A and 28B)
- X      1.1 Targets A1 and A2 are on flat rectangular panels.
- X      1.2 Three circular targets at least 90 mm in diameter and with black and yellow quadrants are mounted at the front on the outboard sides of A1 and A2. The center of each circular target is 100 mm from the one next to it. Distance between targets 100 mm
- X      1.3 Three circular targets at least 90 mm in diameter and with black and yellow quadrants are mounted at the back on the outboard sides of on A1 and A2. The center of each circular target is 100 mm from the one next to it. Distance between targets 100 mm
- X      1.4 The distance between the first circular target at the front of A1 and A2 and the last circular target at the back of A1 and A2 is at least 915 mm.  
Distance between the first and last circular targets 400 mm
- X      1.5 Firmly fix target A1 on the vehicle roof in the vertical longitudinal plane that is coincident with the midsagittal plane of the driver dummy.
- X      1.6 Firmly fix target A2 on the vehicle roof in the vertical longitudinal plane that is coincident with the midsagittal plane of the passenger dummy.
- X      1.7 Two circular targets (C1 and C2) at least 90 mm in diameter and with black and yellow quadrants are mounted on the outside of the driver door. The centers of each circular target are at least 610 mm apart. Distance between targets 610 mm
- X      1.8 Two circular targets (C1 and C2) at least 90 mm in diameter and with black and yellow quadrants are mounted on the outside of the passenger door. The centers of each circular target are at least 610 mm apart. Distance between targets 610 mm
- 1.9 Place tape with squares having alternating colors on the top portion of the steering wheel.
- 1.10 Chalk the bottom portion of the steering wheel.
- X      1.11 Is this an offset test?  
     X      Yes, continue with this section  
          No, go to 2.
- X      1.12 Measure the width of the vehicle. Vehicle width 1967 mm
- X      1.13 Find the centerline of the vehicle. (½ of the vehicle width)
- X      1.14 Find the line parallel to the centerline of the vehicle and 0.1 x vehicle width from the centerline of the vehicle.
- X      1.15 Apply 25 mm wide tape with alternating black and yellow squares parallel to and on each side of the line found in 1.14. The edge of each tape shall be 50 mm from the line found in 1.14. The tape shall extend from the bottom of the bumper to the front edge of the windshield (Figure 28D)

2. Barrier targeting
  - ☒ 2.1 Fix two stationary targets D1 and D2 to the barrier as shown in the Figure 28A. One target is in the vertical longitudinal plane that is coincident with the midsagittal plane of the driver dummy. The other is in the vertical longitudinal plane that is coincident with the midsagittal plane of the passenger dummy. Only one target over driver dummy
  - ☒ 2.2 Targets D1 and D2 are on a rectangular panel. No D2 target
  - ☒ 2.3 Three circular targets at least 90 mm in diameter and with black and yellow quadrants are mounted on the sides of the rectangular panel away from the longitudinal centerline of the vehicle. The center of each circular target is 100 mm from the one next to it.  
 Distance between circular targets on D1 127 mm  
 Distance between circular targets on D2 N/A mm
3. FMVSS 208 dummy targeting requirements
  - ☒ 3.1 Place a circular target with black and yellow quadrants on both sides of the driver dummy head as close as possible to the center of gravity of the head in the x and z direction (relative to the measuring directions of the accelerometers).
  - ☒ 3.2 Place a circular target with black and yellow quadrants on both sides of the passenger dummy head as close as possible to the center of gravity of the head in the x and z direction (relative to the measuring directions of the accelerometers).
  - ☒ 3.3 Place a circular target with black and yellow quadrants on the outboard shoulder of the driver dummy. Place the target as high up on the arm as possible at the intersection of the arm and shoulder. The sleeve of the shirt on the dummy may be cut to make the target visible, but do not remove any material.
  - ☒ 3.4 Place a circular target with black and yellow quadrants on the outboard shoulder of the passenger dummy. Place the target as high up on the arm as possible at the intersection of the arm and shoulder. The sleeve of the shirt on the dummy may be cut to make the target visible, but do not remove any material.
4. FMVSS 204 targeting requirements
  - ☒ 4.1 Is an FMVSS 204 indicant test ordered on the "COTR Vehicle Work Order?"  
       Yes, continue with this form.  
☒ No, this form is complete
  - ☐ 4.2 Resection panel (Figure 28C)
    - ☐ 4.2.1 The panel deviates no more than 6 mm from perfect flatness when suspended vertically.
    - ☐ 4.2.2 The 8 targets on the panel are circular targets at least 90 mm in diameter and with black and yellow quadrants.
    - ☐ 4.2.3 The center of each of the 4 outer targets are placed within 1 mm of the corners of a square measuring 914 mm on each side.
    - ☐ 4.2.4 Locate another square with 228 mm sides and with the center of this square coincident with the center of the 914 mm square.
    - ☐ 4.2.5 The center of the 4 inner targets are placed at the midpoints of each of the 228 mm sides.
  - ☐ 4.3 Place a circular target at least 90 mm in diameter and with black and yellow quadrants on a material (cardboard, metal, etc.) that can be taped to the top of the steering column.
  - ☐ 4.4 Tape the target from 4.3 to the top of the steering column in a manner that does not interfere with the movement of the steering column in a crash



## REFERENCE PHOTO TARGETS

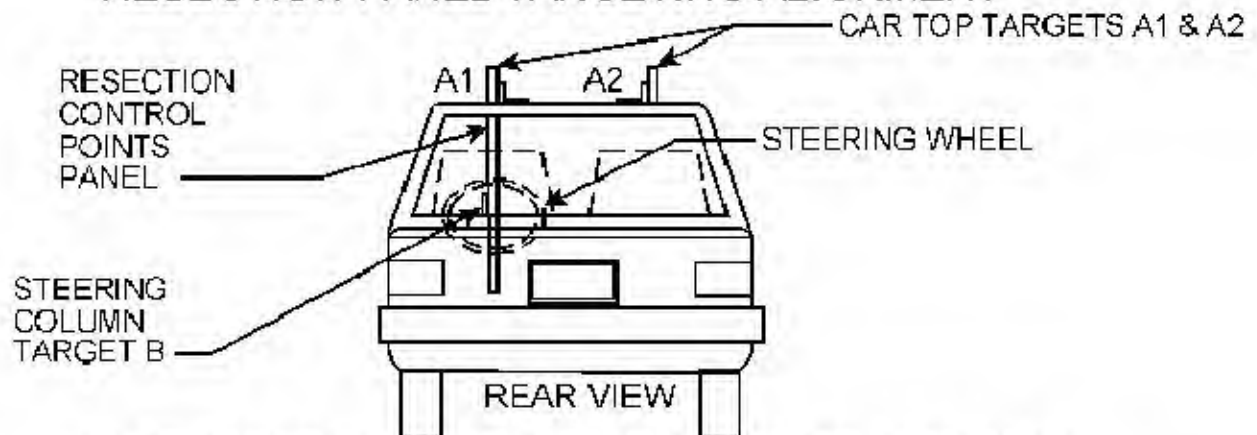


COVERED PHOTO PIT

LEFT SIDE VIEW

FIGURE 28A

## RESECTION PANEL TARGETING ALIGNMENT



## TEST RUN STEERING COLUMN CAMERA VIEW OF TYPICAL TIME ZERO VEHICLE POSITION

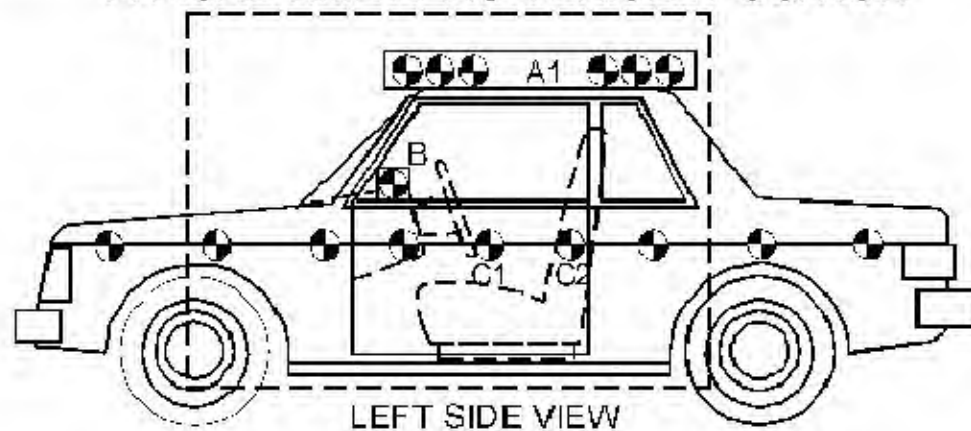
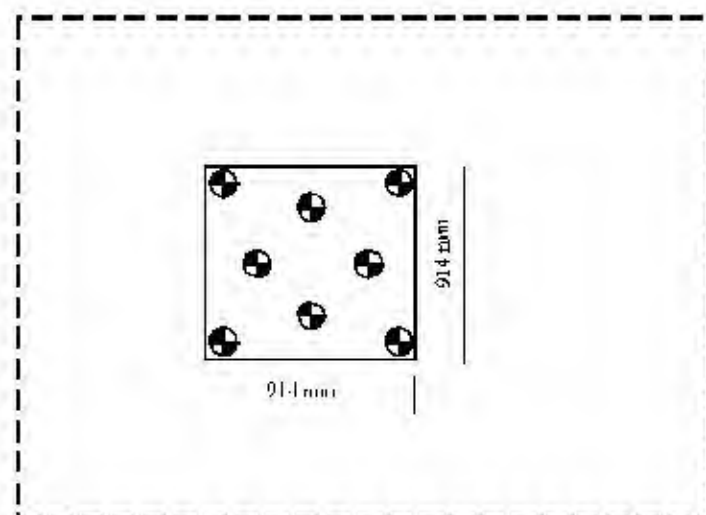


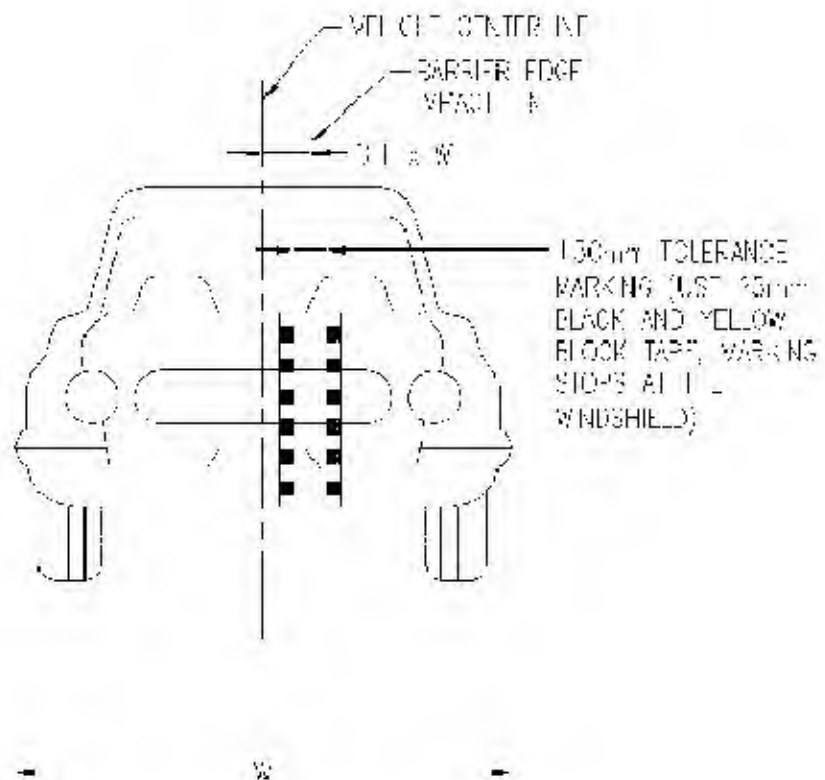
FIGURE 28B

## PRE-RUN STEERING COLUMN HIGH SPEED CAMERA VIEW



LEFT SIDE VIEW

FIGURE 28C



OFFSET DEFORMABLE BARRIER  
ADDITIONAL VEHICLE TARGETING

**FIGURE 28D**

**DATA SHEET 29**  
**CAMERA LOCATIONS**

VEH. NHTSA No.: C30102 : TEST DATE: 11/19/02 : TIME: 1617

VEH. YEAR/MAKE/MODEL/BODY STYLE: 2003/Chevrolet/Silverado/Pickup Truck

CAMERA NO.	VIEW	CAMERA POSITIONS (mm)*			ANGLE (deg)	FILM PLANE TO HEAD TARGET	LENS (mm)	SPEED (fps)
		X	Y	Z				
1	Left Side View							24
2	Left Side View (barrier face to front seat backs)	NA <sup>1</sup>	NA <sup>1</sup>	NA <sup>1</sup>	NA <sup>1</sup>	NA <sup>1</sup>	Z <sub>rear</sub>	430
3	Left Side View (A-post)	-1230	-7660	-1380	0	7200	35	705
4	Left Side View (B-post aimed toward center of steering wheel)	-5000	-5000	-2150	-9	4230	25	250
5	Left Side View (B-post)	-1640	-7220	-1300	-3.5	7200	25	NA <sup>2</sup>
6	Left Side View (front door under camera 5)	-1600	-7310	-950	0	6820	25	585
7 <sup>3</sup>	Right Side View (overall)	-2770	9060	-1300	-1	8480	13	1000
8	Right Side View (A-post)	-900	5850	-1300	0	5350	25	1000
9	Right Side View (B-post)	-5210	5510	-1940	-7	4670	25	1000
10	Right Side View (front door)	-1300	7880	-1300	0	7370	25	1002
11 <sup>3</sup>	Front View Windshield	470	0	-2500	-66	2150	8.5	1000
12 <sup>3</sup>	Front View Driver	470	-270	-2500	-62	2200	17	1000
13 <sup>3</sup>	Front View Passenger	560	230	-2500	-62	2180	17	1000
14 <sup>3</sup>	Overhead Barrier Impact View	0	0	-5600	-90	NA <sup>1</sup>	13	1000
15	Pit Camera Engine View	-900	0	830	90	NA <sup>1</sup>	17	685
16	Pit Camera Fuel Tank View	-2650	130	1000	90	NA <sup>1</sup>	13	NA <sup>2</sup>

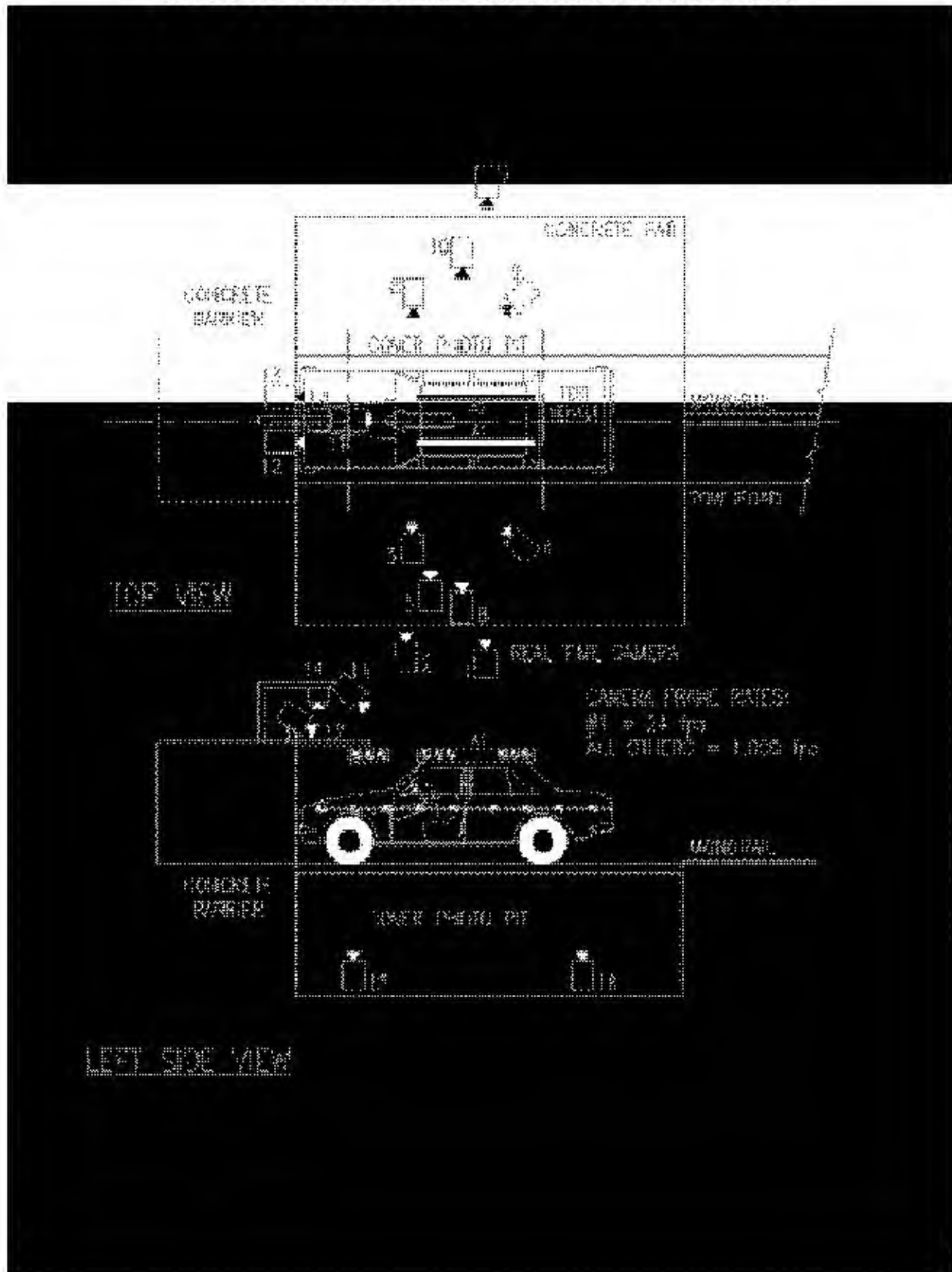
- \* -X - film plane forward (downstream) from barrier impact surface  
 Y - film plane to right of monorail centerline from driver's perspective  
 -Z - film plane below ground level

<sup>1</sup> Not applicable

<sup>2</sup> Unable to determine speed, camera ran too slow to time.

<sup>3</sup> Digital camera

# CAMERA POSITIONS FOR FRONTAL IMPACTS



**DATA SHEET 30**  
**DUMMY POSITIONING PROCEDURES**  
**FOR DRIVER TEST DUMMY CONFORMING TO SUBPART E OF PART 572**

NHTSA No.: C30102

Test Date: 11/19/02

Laboratory: TRC Inc Test Technician(s): J Jenkins

Impact Angle: 0° Belted Dummies:      Yes   X   No

Test Speed:   X   32 to 40 km/h      0 to 48 km/h      0 to 56 km/h

Driver Dummy:      5<sup>th</sup> female   X   50<sup>th</sup> male Passenger Dummy:      5<sup>th</sup> female   X   50<sup>th</sup> male

- X   1. Position the seat's adjustable lumbar supports so that the lumbar support is in its lowest, retracted or deflated adjustment position. (S20.1.8.1)  
  X   N/A - No lumbar adjustment
- X   2. Position any adjustable parts of the seat that provide additional support so that they are in the lowest or most open adjustment position. (S20.1.8.2)  
  X   N/A - No additional support adjustment
- X   3. If the seat cushion adjusts fore and aft, independent of the seat back, set this adjustment to the full rearward position. (S20.1.8.3)  
  X   N/A - No independent fore-aft seat cushion adjustment
- X   4. If the seat cushion height adjusts independent of the seat back, set this adjustment to the full down position.  
  X   N/A - No independent seat cushion height adjustment.
- X   5. Put the seat in its full rearward position.  
     N/A - the seat does not have a fore-aft adjustment
- X   6. If the seat height is adjustable, put it in the full down position.  
  X   N/A - No seat height adjustment
- X   7. Draw a horizontal line on the side of the seat cushion. Record the angle of this line, with respect to the horizontal, as the seat cushion reference angle.   0°
- X   8. Using only the controls that change the seat in the fore-aft direction, mark the fore-aft seat positions. Mark the side of the seat and a reference position directly below on a part of the vehicle that does not adjust. For manual seats, move the seat forward one detent at a time and mark each detent as was done for the full rearward position. For power seats, mark only the full rearward, middle, and full forward positions. Label three of the positions with the following: F for full forward, M for mid-position (if there is no mid position, label the closest adjustment position to the rear of the mid-point), and R for full rearward.  
     N/A - The seat does not have a fore-aft adjustment.
- X   9. Using only the controls that change the seat in the fore-aft direction, place the seat in the middle fore-aft position.
- X   10. If seat adjustments, other than fore-aft, are present and the seat cushion reference angle changes from that measured in 7, use those adjustments to maintain as closely as possible the angle recorded in 7.  
  X   N/A - No adjustments  
Reference angle                       
Reference angle as tested
- X   11. The seat back angle, if adjustable, is set at the manufacturer's nominal design riding position for a 50th percentile adult male in the manner specified by the manufacturer. (S4.5.4.1 (b) and S8.1.3)  
     N/A - No seat back angle adjustment

- Manufacturer's design seat back angle 15.5°  
 Tested seat back angle 15.4°
- X 12. If adjustable, set the head restraint at the full up and full forward position. Any adjustment of the head restraint shall be used to position it full forward. For example, if it rotates, rotate it such that the head restraint extends as far forward as possible.  
     N/A – No head restraint adjustment
- X 13. Place any adjustable seat belt anchorages at the vehicle manufacturer's nominal design position for a 50th percentile adult male occupant (S22.2.1.6.1)  
X N/A – No adjustable upper seat belt anchorage  
 Manufacturer's specified anchorage position: Fixed  
 Tested anchorage position: Fixed
- X 14. Place the adjustable accelerator pedal in the full forward position  
X N/A – the accelerator pedal is not adjustable.
- X 15. Is the driver seat a bucket seat?  
X Yes, go to 15.1 and skip 15.2.  
     No, go to 15.2 and skip 15.1.  
X 15.1 Bucket seats.  
     Locate and mark a vertical Plane B through the longitudinal centerline of the seat. (S22.2.1.3) The longitudinal centerline of a bucket seat cushion is determined at the widest part of the seat cushion. Measure perpendicular to the longitudinal centerline of the vehicle.  
     Record the width of the seat: 525 mm  
     Record the distance from the edge of the seat to Plane B: 263 mm  
     Go to 16
- 15.2 Bench seats (including split bench seats):  
     Locate and mark a vertical Plane B through the center of the steering wheel parallel to the vehicle longitudinal centerline.  
     Go to 16
- X 16. Place the dummy in the seat such that the midsagittal plane is coincident with Plane B and the upper torso rests against the seat back. (S10.4.1.1 & S10.4.1.2)
- X 17. Rest the thighs on the seat cushion. (S10.5)
- X 18. Position the H-point of the dummy within 0.5 inch of the vertical dimension and 0.5 inch of the horizontal dimension of a point 0.25 inch below the H-point determined by using the equipment and procedures specified in SAE J826 (APR 1980). (S10.4.2.1) Then measure the pelvic angle with respect to the horizontal using the pelvic angle gage. Adjust the dummy position until these three measurements are within the specifications (S10.4.2.1 and S10.4.2.2)  
X horizontal inches from the point 0.25 below the determined H-point (0.5 inch max.) (S10.4.2.1) Measurement not recorded  
X vertical inches from the point 0.25 below the determined H-point (0.5 inch max.) (S10.4.2.1) Measurement not recorded  
X pelvic angle (20° to 25°) Measurement not recorded
- X 19. Is the head level within ± 0.5°? (S10.1)  
     Yes, go to 20  
X No, go to 19.1
- X 19.1 Adjust the position of the H-point. (S10.1)
- X 19.2 Is the head level within ± 0.5°? (S10.1)  
X Yes, record the following, then go to 20.      No, go to 19.3  
8 mm forward horizontal inches from the point 0.25 below the determined H-point (0.5 inch max.) (S10.4.2.1)  
10 mm vertical inches from the point 0.25 below the determined H-point (0.5 inch max.) (S10.4.2.1)  
24.8° pelvic angle (20° to 25°) (S10.4.2.2)



- ☐ 19.3 Adjust the pelvic angle. (S10.1)
- ☐ 19.4 Is the head level within  $\pm 0.5^\circ$ ? (S10.1)
  - ☐ Yes, record the following, then go to 20. ☐ No, go to 19.5
  - ☐ horizontal inches from the point 0.25 below the determined H-point (0.5 inch max.) (S10.4.2.1)
  - ☐ vertical inches from the point 0.25 below the determined H-point (0.5 inch max.) (S10.4.2.1)
  - ☐ pelvic angle ( $20^\circ$  to  $25^\circ$ ) (S10.4.2.2)
- ☐ 19.5 Adjust the neck bracket of the dummy the minimum amount necessary from the non-adjusted "0" setting until the head is level within  $\pm 0.5^\circ$ . (S10.1)
  - Record the following, then go to 20
  - ☐ horizontal inches from the point 0.25 below the determined H-point (0.5 inch max.) (S10.4.2.1)
  - ☐ vertical inches from the point 0.25 below the determined H-point (0.5 inch max.) (S10.4.2.1)
  - ☐ pelvic angle ( $20^\circ$  to  $25^\circ$ ) (S10.4.2.2)
- ☒ 20. Set the distance between the outboard knee clevis flange surfaces at 10.6 inches. 270 mm measured distance (10.6 inches) (S10.5)
- ☒ 21. Can the right foot be placed on the accelerator?
  - ☒ Yes, go to 21.1 and skip 21.2
  - ☐ No, go to 21.2
  - ☒ 21.1 To the extent practicable keep the right thigh and the leg in a vertical plane (S10.5) while resting the foot on the undepressed accelerator pedal with the rearmost point of the heel on the floor pan in the plane of the pedal. (S10.6.1.1)
  - ☐ 21.2 Initially set the foot perpendicular to the leg and then place it as far forward as possible in the direction of the pedal centerline with the rearmost point of the heel resting on the floor pan. (S10.6.1.1)
    - ☐ 21.2.1 Move the adjustable pedal to its most rearward position or until the right foot is flat on the pedal, whichever occurs first. (S10.6.1.1)
    - ☐ N/A the accelerator pedal is not adjustable
- ☒ 22. Does the vehicle have a foot rest?
  - ☐ Yes, go to 22.1
  - ☒ No, go to 22.1.2
  - ☐ 22.1 With the left thigh and leg in a vertical plane, place the foot on the foot rest. (S10.6.1.2)
    - ☐ 22.1.1 Is the left foot elevated above the right foot?
      - ☐ Yes, go to 22.1.2 and position the foot off the foot rest
      - ☐ No, go to 23
    - ☐ 22.1.2 Check the ONLY one of the following that applies
      - ☐ The foot reaches the toeboard without adjusting the foot or leg. To the extent practicable keep the left thigh and the leg in a vertical longitudinal plane (S10.5) and place the foot on the toeboard, skip 22.1.3 (S10.6.1.2)
      - ☐ The foot reaches the toeboard but contacts the brake or clutch pedal and must be rotated to avoid pedal contact. To the extent practicable keep the left thigh and the leg in a vertical longitudinal plane (S10.5) and place the foot on the toeboard. The foot was rotated about the leg to avoid pedal contact, skip 22.1.3 (S10.6.1.2)
      - ☐ The foot reaches the toeboard but contacts the brake or clutch pedal and the foot and leg must be rotated to avoid pedal contact. To the extent practicable keep the left thigh and the leg in a vertical longitudinal plane (S10.5) and place the foot on the toeboard. The foot was rotated about the leg and the leg was rotated outboard about the hip the minimum distance necessary to avoid pedal contact, skip 22.1.3 (S10.6.1.2)

- ☐ N/A - the foot does not reach the toeboard, go to 22.1.3
- ☐ 22.1.3 Check the ONLY one of the following that applies
- ☐ The foot did not contact the brake or clutch pedal. To the extent practicable keep the left thigh and the leg in a vertical longitudinal plane (S10.5). Set the foot perpendicular to the leg and place it as far forward as possible with the heel resting on the floor pan. (S10.6.1.2)
- ☐ The foot did contact the brake or clutch pedal and the foot was rotated to avoid contact. To the extent practicable keep the left thigh and the leg in a vertical longitudinal plane (S10.5). Set the foot perpendicular to the leg and place it as far forward as possible with the heel resting on the floor pan and rotate the foot the minimum amount to avoid pedal contact. (S10.6.1.2)
- ☐ The foot did contact the brake or clutch pedal and the foot was rotated about the leg and the leg was rotated outboard about the hip the minimum distance necessary to avoid pedal contact. Set the foot perpendicular to the leg and place it as far forward as possible with the heel resting on the floor pan and rotate the foot about the leg and the thigh and leg outboard about the hip the minimum distance necessary to avoid pedal contact. (S10.6.1.2)
- ☒ 23. Place the right upper arm adjacent to the torso with the centerline as close to a vertical plane as possible. (S10.2.1)
- ☒ 24. Is the driver seat belt used for this test?
  - ☐ Yes, continue
  - ☒ No, go to 25
- ☐ 24.1 Fasten the seat belt around the dummy.
- ☐ 24.2 Remove all slack from the lap belt portion. (S10.9)
- ☐ 24.3 Pull the upper torso webbing out of the retractor and allow it to retract; repeat this four times. (S10.9)
- ☐ 24.4 Apply a 2 to 4 pound tension load to the lap belt. (S10.9)
  - ☐ pound load applied
- ☐ 24.5 Is the belt system equipped with a tension relieving device?
  - ☐ Yes, continue
  - ☐ No, go to 25
- ☐ 24.6 Introduce the maximum amount of slack into the upper torso belt that is recommended by the vehicle manufacturer in the vehicle owner's manual. (S10.9). Go to 25
- ☒ 25. Place the left upper arm adjacent to the torso with the centerline as close to a vertical plane as possible. (S10.2.1)
- ☒ 26. Place the right hand with the palm in contact with the steering wheel at the rim's horizontal centerline and with the thumb over the steering wheel. (S10.3.1)
- ☒ 27. Place the left hand with the palm in contact with the steering wheel at the rim's horizontal centerline and with the thumb over the steering wheel. (S10.3.1)
- ☒ 28. Tape the thumb of each hand to the steering wheel by using masking tape with a width of 0.25 inch. The length of the tape shall only be enough to go around the thumb and steering wheel one time.

**DATA SHEET 30**  
**DUMMY POSITIONING PROCEDURES FOR PASSENGER TEST DUMMY**  
**CONFORMING TO SUBPART E OF PART 572**

NIHTSA No.: C30102

Test Date: 11/19/02

Laboratory: TRC Inc Test Technician(s): J Jenkins

Impact Angle: 0° Belted Dummies:      Yes   X   No

Test Speed:   X   32 to 40 km/h      0 to 48 km/h      0 to 56 km/h

Driver Dummy:      5<sup>th</sup> female   X   50<sup>th</sup> male Passenger Dummy:      5<sup>th</sup> female   X   50<sup>th</sup> male

- X   1. The seat is a bench seat for which the adjustments have already been made for the driver and there are no independent adjustments that can be made for the passenger. Go to 14.  
  X   N/A - the passenger seat adjusts independently of the driver seat.
- X   2. Position the seat's adjustable lumbar supports so that the lumbar support is in its lowest, retracted or deflated adjustment position. (S20.1.8.1)  
  X   N/A - No lumbar adjustment
- X   3. Position any adjustable parts of the seat that provide additional support so that they are in the lowest or most open adjustment position. (S20.1.8.2)  
  X   N/A - No additional support adjustment
- X   4. If the seat cushion adjusts fore and aft, independent of the seat back, set this adjustment to the full rearward position. (S20.1.8.3)  
     N/A - No independent fore-aft seat cushion adjustment
- X   5. If the seat cushion height adjusts independent of the seat back, set this adjustment to the full down position.  
  X   N/A - No independent seat cushion height adjustment.
- X   6. Put the seat in its full rearward position.  
  X   N/A - the seat does not have a fore-aft adjustment
- X   7. If the seat height is adjustable, put it in the full down position.  
  X   N/A - No seat height adjustment
- X   8. Draw a horizontal line on the side of the seat cushion. Record the angle of this line, with respect to the horizontal, as the seat cushion reference angle.   0°
- X   9. Using only the controls that change the seat in the fore-aft direction, mark the fore-aft seat positions. Mark the side of the seat and a reference position directly below on a part of the vehicle that does not adjust. For manual seats, move the seat forward one detent at a time and mark each detent as was done for the full rearward position. For power seats, mark only the full rearward, middle, and full forward positions. Label three of the positions with the following: F for full forward, M for mid-position (if there is no mid position, label the closest adjustment position to the rear of the mid-point), and R for full rearward.  
     N/A - The seat does not have a fore-aft adjustment.
- X   10. Using only the controls that change the seat in the fore-aft direction, place the seat in the middle fore-aft position.
- X   11. If seat adjustments, other than fore-aft, are present and the seat cushion reference angle changes from that measured in 8, use those adjustments to maintain as closely as possible the angle recorded in 8.  
  X   N/A - No adjustments  
Reference angle                       
Reference angle as tested

- X 12. The seat back angle, if adjustable, is set at the manufacturer's nominal design riding position for a 50th percentile adult male in the manner specified by the manufacturer. (S4.3.4.1 (b) and S8.1.3)  
       \_\_\_ N/A No seat back angle adjustment  
       Manufacturer's design seat back angle 15.5°  
       Tested seat back angle \_\_\_\_\_
- X 13. If adjustable, set the head restraint at the full up and full forward position. Any adjustment of the head restraint shall be used to position it full forward. For example, if it rotates, rotate it such that the head restraint extends as far forward as possible.  
       \_\_\_ N/A No head restraint adjustment
- X 14. Place any adjustable seat belt anchorages at the vehicle manufacturer's nominal design position for a 50th percentile adult male occupant. (S22.2.1.6.1)  
       X N/A – No adjustable upper seat belt anchorage  
       Manufacturer's specified anchorage position: Fixed  
       Tested anchorage position Fixed
- X 15. Is the passenger seat a bucket seat?  
       X Yes, go to 15.1 and skip 15.2.  
       \_\_\_ No, go to 15.2 and skip 15.1.
- X 15.1 Bucket seats:  
       Locate and mark a vertical Plane B through the longitudinal centerline of the seat (S22.2.1.3). The longitudinal centerline of a bucket seat cushion is determined at the widest part of the seat cushion. Measure perpendicular to the longitudinal centerline of the vehicle.  
       Record the width of the seat: 520 mm  
       Record the distance from the edge of the seat to Plane B: 262 mm  
       Go to 16
- \_\_\_ 15.2 Bench seats (including split bench seats):  
       Locate and mark a vertical longitudinal Plane B on the seat that is the same distance from the longitudinal centerline of the vehicle as the center of the steering wheel.  
       Distance from the vehicle centerline to the center of the steering wheel \_\_\_\_\_  
       Distance from the vehicle centerline to Plane B \_\_\_\_\_  
       Go to 16
- X 16. Place the dummy in the seat such that the midsagittal plane is coincident with Plane B and the upper torso rests against the seat back. (S10.4.1.1 & S10.4.1.2)
- X 17. Rest the thighs on the seat cushion. (S10.5)
- X 18. Position the H-point of the dummy within 0.5 inch of the vertical dimension and 0.5 inch of the horizontal dimension of a point 0.25 inch below the H-point determined by using the equipment and procedures specified in SAE J826 (APR 1980). (S10.4.2.1) Then measure the pelvic angle with respect to the horizontal using the pelvic angle gage. Adjust the dummy position until these three measurements are within the specifications (S10.4.2.1 and S10.4.2.2)  
       7 mm forward horizontal inches from the point 0.25 below the determined H-point (0.5 inch max.) (S10.4.2.1)  
       3 mm high vertical inches from the point 0.25 below the determined H-point (0.5 inch max.) (S10.4.2.1)  
       22.6° pelvic angle (20° to 25°) (S10.4.2.2)
- X 19. Is the head level within ± 0.5°? (S10.1)  
       X Yes, go to 20  
       \_\_\_ No, go to 19.1  
       \_\_\_ 19.1 Adjust the position of the H-point. (S10.1)



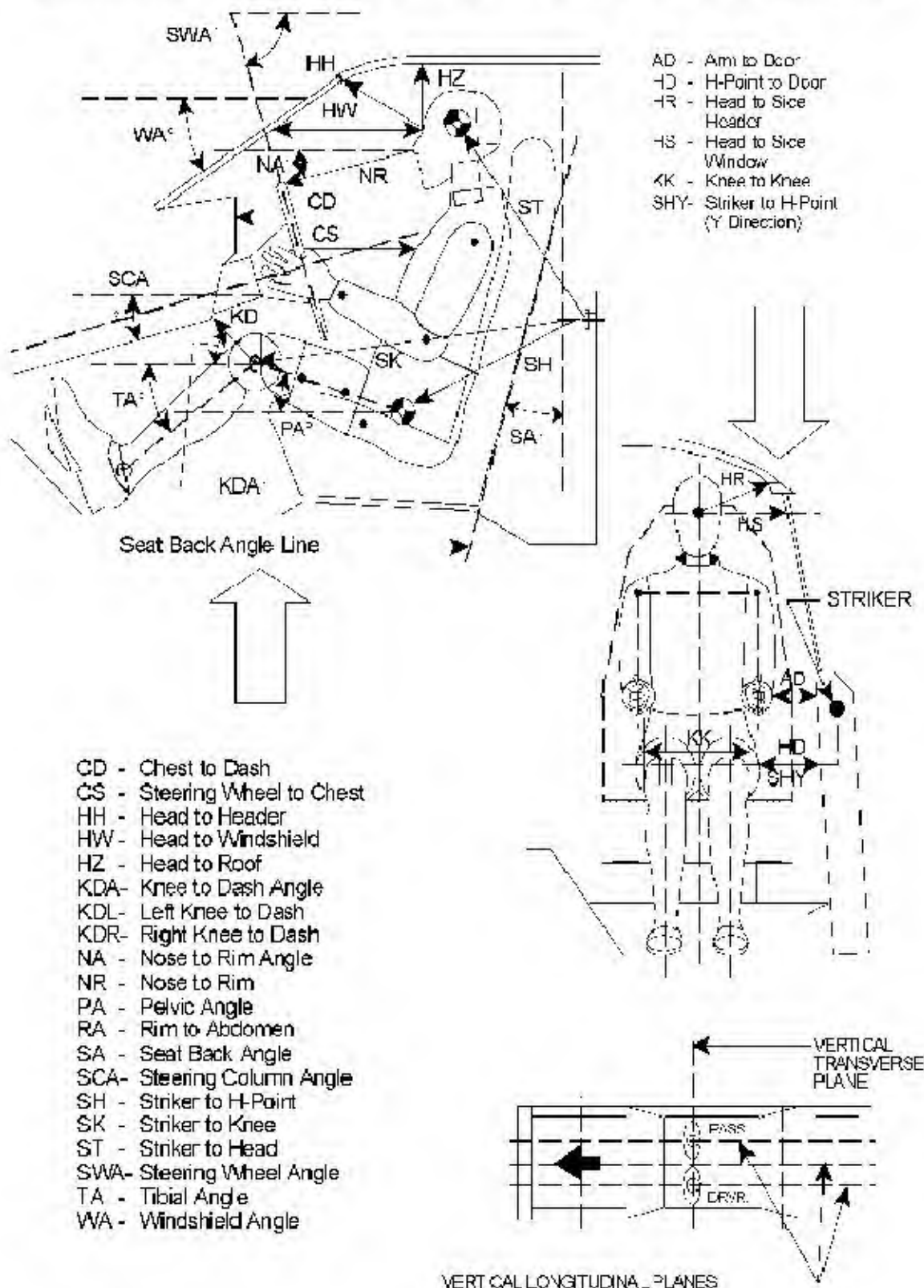
- ☐ 19.2 Is the head level within  $\pm 0.5^\circ$ ? (S10.1)  
☐ Yes, record the following, then go to 20. ☐ No, go to 19.3  
☐ horizontal inches from the point 0.25 below the determined H-point (0.5 inch max.) (S10.4.2.1)  
☐ vertical inches from the point 0.25 below the determined H-point (0.5 inch max.) (S10.4.2.1)  
☐ pelvic angle ( $20^\circ$  to  $25^\circ$ ) (S10.4.2.2)
- 19.3 Adjust the pelvic angle. (S10.1)
- ☐ 19.4 Is the head level within  $\pm 0.5^\circ$ ? (S10.1)  
☐ Yes, record the following, then go to 20. ☐ No, go to 19.5  
☐ horizontal inches from the point 0.25 below the determined H-point (0.5 inch max.) (S10.4.2.1)  
☐ vertical inches from the point 0.25 below the determined H-point (0.5 inch max.) (S10.4.2.1)  
☐ pelvic angle ( $20^\circ$  to  $25^\circ$ ) (S10.4.2.2)
- ☐ 19.5 Adjust the neck bracket of the dummy the minimum amount necessary from the non-adjusted "0" setting until the head is level within  $\pm 0.5^\circ$ . (S10.1)  
 Record the following, then go to 20  
☐ horizontal inches from the point 0.25 below the determined H-point (0.5 inch max.) (S10.4.2.1)  
☐ vertical inches from the point 0.25 below the determined H-point (0.5 inch max.) (S10.4.2.1)  
☐ pelvic angle ( $20^\circ$  to  $25^\circ$ ) (S10.4.2.2)
- ☒ 20. Set the distance between the outboard knee clevis flange surfaces at 10.6 inches.  
 270 mm measured distance (10.6 inches) (S10.5)
- ☒ 21. Check the only one of the following that applies.  
☒ To the extent practicable keep the left thigh and leg in a vertical plane and the right thigh and leg in a vertical plane, place the feet on the toeboard with the heels resting on the floor pan as close as possible to the intersection of the floor pan and toeboard.  
☐ The feet cannot be placed flat on the toeboard. To the extent practicable keep the left thigh and leg in a vertical plane and the right thigh and leg in a vertical plane, set the feet perpendicular to the legs and place them as far forward as possible with the heels resting on the floor pan.  
☐ The vehicle has a wheelhouse projection. To the extent practicable keep the left thigh and leg in a vertical plane and the right thigh and leg in a vertical plane, set the feet perpendicular to the legs and place them as far forward as possible with the heels resting on the floor pan. Do not set the feet on the wheelhouse projection.  
☐ The vehicle has a wheelhouse projection and the feet cannot be placed on the toeboard. To the extent practicable keep the left thigh and leg in a vertical plane and the right thigh and leg in a vertical plane, set the feet perpendicular to the legs and place them as far forward as possible with the heel resting on the floor pan. Do not set the feet on the wheelhouse projection.
- ☒ 22. Place the left upper arm in contact with the seat back and side of the torso. (S10.2.2)
- ☒ 23. Is the passenger seat belt used for this test?  
☐ Yes, continue  
☒ No, go to 24
- ☐ 23.1 Fasten the seat belt around the dummy.  
☐ 23.2 Remove all slack from the lap belt portion. (S10.9)  
☐ 23.3 Pull the upper torso webbing out of the retractor and allow it to retract, repeat this four times. (S10.9)  
☐ 23.4 Apply a 2 to 4 pound tension load to the lap belt. (S10.9)  
☐ pound load applied

- ☐ 23.5 Is the belt system equipped with a tension relieving device?
- ☐ Yes, continue
- ☐ No, go to 24
- ☐ 23.6 Introduce the maximum amount of slack into the upper torso belt that is recommended by the vehicle manufacturer in the vehicle owner's manual. (S10.9).  
Go to 24.
- ☒ 24. Place the right upper arm in contact with the seat back and side of the torso. (S10.2.2)
- ☒ 25. Place the left hand palm in contact with the outside of the left thigh and the little finger in contact with the seat cushion. (S10.3.2)
- ☒ 26. Place the right hand palm in contact with the outside of the right thigh and the little finger in contact with the seat cushion. (S10.3.2)

**DATA SHEET 31**  
**DUMMY POSITIONING MEASUREMENTS**

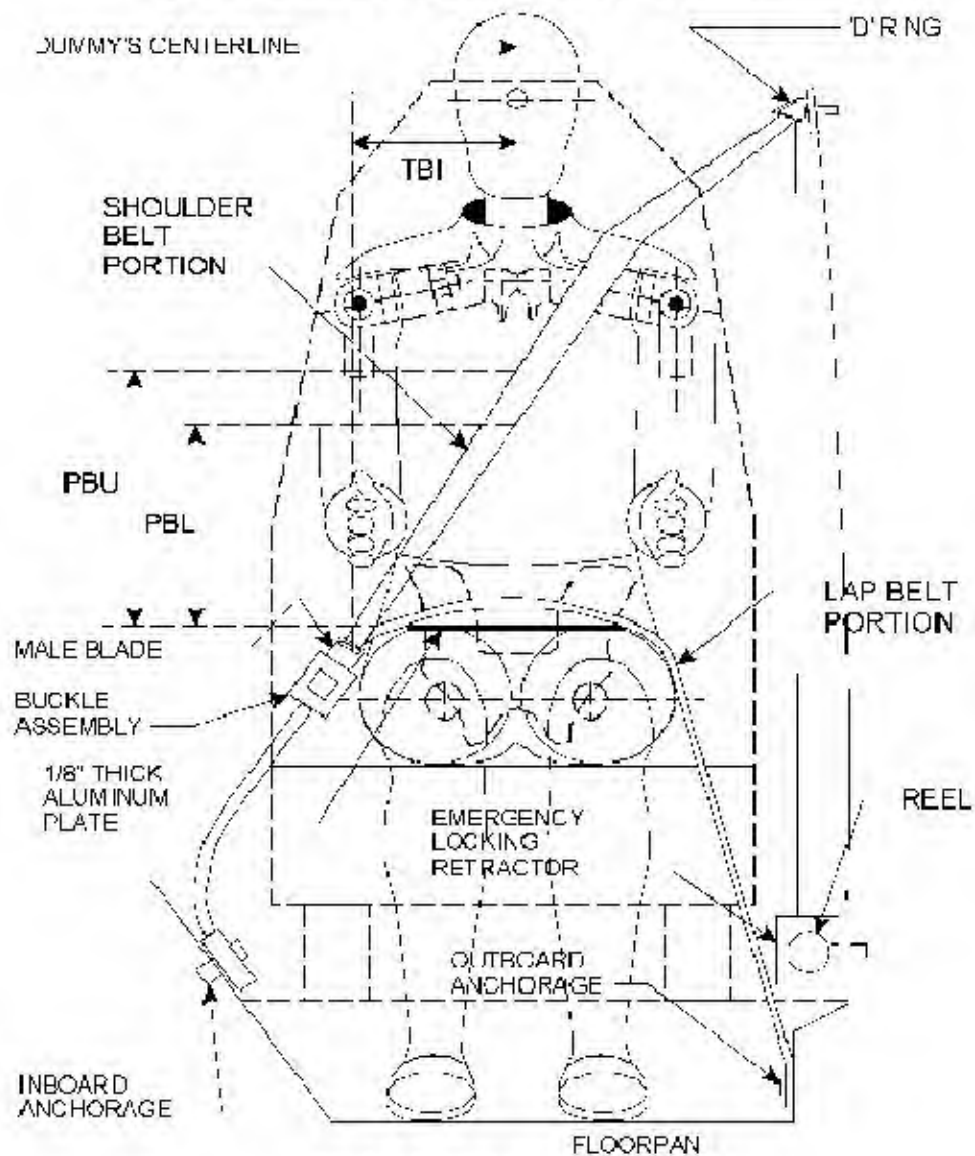
	DRIVER (Serial No. 230 )	PASSENGER (Serial No. 229 )
WA°	40	
SWA°	69.1	NA
SCA°	20.9	NA
SA°	15.4	15.5
HZ	270	260
III	527	496
HW	697	663
IIR	250	245
NR	391 ANGLE 9.3°	NA
CD	550	486
CS	314	NA
RA	178	NA
KDL	135 ANGLE 33.5°	130
KDR	148	135 ANGLE 20.7°
PA°	24.8	22.4
TA°	54.9	50.2
KK	320	270
ST	634 ANGLE -74.6°	640 ANGLE -67.0°
SK	720 ANGLE -3.2°	727 ANGLE -0.5°
SII	355 ANGLE 12.4°	335 ANGLE 12.9°
SIY	260	245
HS	278	260
HD	162	163
AD	134	141

# DUMMY MEASUREMENT FOR FRONT SEAT PASSENGERS





## SEAT BELT POSITIONING DATA



**FRONT VIEW OF DUMMY**

## DESCRIPTIONS OF DUMMY MEASUREMENTS

When a level is to be used, it is to ensure that the line containing the two points described is either parallel or perpendicular to the ground. If a measurement to be made is less than 10 inches ignore the directions to use a level and approximate a level measurement. Also, when a measurement is to be taken to or from the center of a bolt on the dummy, take the measurement from the center of the bolt hole if the bolt is recessed.

The following measurements are to be made within a vertical longitudinal plane.

- \* III Head to Header, taken from the point where the dummy's nose meets his forehead (between his eyes) to the furthest point forward on the header.
- \* IIW Head to Windshield, taken from the point where the dummy's nose meets his forehead (between his eyes) to a point on the windshield. Use a level.
- HZ Head to Roof, taken from the point where the dummy's nose meets his forehead (between his eyes) to the point on the roof directly above it. Use a level.
- \* CS Steering Wheel to Chest, taken from the center of the steering wheel hub to the dummy's chest. Use a level.
- \* CD Chest to Dash, place a tape measure on the tip of the dummy's chin and rotate five inches of it downward toward the dummy to the point of contact on the transverse center of the dummy's chest. Measure from this point to the closest point on the dashboard either between the upper part of the steering wheel between the hub and the rim, or measure to the dashboard placing the tape measure above the rim, whichever is a shorter measurement. See photograph.
- RA Steering Wheel Rim to Abdomen, taken from the bottommost point of the steering wheel rim horizontally rearward to the dummy. Use a level.
- NR Nose to Rim, taken from the tip of the dummy's nose to the closest point on the top of the steering wheel rim. Also indicate the angle this line makes with respect to the horizontal (NA).
- \*<sup>1</sup> KDL, KDR Left and Right Knees to Dashboard, taken from the center of the knee pivot bolt's outer surface to the closest point forward acquired by swinging the tape measure in continually larger arcs until it contacts the dashboard. Also reference the angle of this measurement with respect to the horizontal for the outboard knee (KDA). See photograph.
- SH, SK, ST Striker to Hip, Knee, and Head, these measurements are to be taken in the X-Z plane measured from the forward most center point on the striker to the center of the H-point, outer knee bolt, and head target. When taking this measurement a firm device that can be rigidly connected to the striker should be used. Use a level. The angles of these measurements with respect to the

\* Measurement used in Data Tape Reference Guide

<sup>1</sup> Only outboard measurement is referenced in Data Tape Reference Guide

horizontal should also be recorded. The measurement in the Y (transverse) direction from the striker to the H-point should also be taken (SHY). See photograph.

The following measurements are to be made within a vertical transverse plane.

- HS Head to Side Window, taken from the point where the dummy's nose meets his forehead (between his eyes) to the outside of the side window. In order to make this measurement, roll the window down to the exact height that allows a level measurement. Use a level. See photograph.
- \* AD Arm to Door, taken from the outer surface of the elbow pivot bolt on a Hybrid II dummy to the first point it hits on the door. In the case of a Hybrid III dummy, measure from the bolt on the outer biceps. When a SID is used make the measurement from the center of the bottom of the arm segment where it meets the dummy's torso.
- \* IID H-point to Door, taken from the H-point on the dummy to the closest point on the door. Use a level.
- \* HR Head to Side Header, measure the shortest distance from the point where the dummy's nose meets his forehead (between his eyes) to the side edge of the header just above the window frame, directly adjacent to the dummy.
- SHY Striker to H-point, taken from a rod rigidly connected to the forward most center point on the striker to the H-point. Use a level. See photograph.
- KK Knee to Knee, for Hybrid II dummies measure the distance between knee pivot bolt head outer surfaces. For Hybrid III dummies measure the distance between the outboard knee clevis flange surfaces. (This measurement may not be exactly transverse)

#### ANGLES

- SA Seat Back Angle, find this angle using the instructions provided by the manufacturer. If the manufacturer doesn't provide clear instructions contact the COIR.
- PA Pelvic or Femur Angle, taken by inserting the pelvic angle gauge into the H-point gauging hole on the SID or the Hybrid III dummies and taking this angle with respect to the horizontal. Measure the angle of the line connecting the H-point hole and the outer knee pivot bolt hole on a Hybrid II dummy with respect to the horizontal, to find the femur angle.
- SWA Steering Wheel Angle, find this by placing a straight edge against the steering wheel rim along the longitudinal plane. Then measure the acute angle of the straight edge with respect to the horizontal.

\* Measurement used in Data Tape Reference Guide

<sup>1</sup> Only outboard measurement is referenced in Data Tape Reference Guide

SCA	Steering Column Angle, measured with respect to the horizontal by placing an inclinometer on the center of the underside of the steering column.
NA	Measure the angle made when taking the measurement NR with respect to the horizontal.
KDA	Knee to Dash Angle, the angle that the measurement KD is taken at with respect to the horizontal. Only get this angle for the outboard knee. See photograph.
WA	Windshield Angle, place an inclinometer along the transverse center of the windshield exterior (measurement is made with respect to horizontal)
TA	Tibia Angle, use a straight edge to connect the dummy's knee and ankle bolts. Then place an inclinometer on the straight edge and measure the angle with respect to the horizontal.

# **DATA SHEET 32** **CRASH TEST**

NHTSA No.: C30102

Test Date: 11/19/02

Laboratory: TRC Inc.

Test Technician(s): J. Jenkins

Impact Angle: 0°

Belted Dummies:      Yes   X   No

Test Speed:   X   32 to 40 km/h

     0 to 48 km/h

     0 to 56 km/h

Driver Dummy:      5<sup>th</sup> female   X   50<sup>th</sup> male Passenger Dummy:      5<sup>th</sup> female   X   50<sup>th</sup> male

- X   1. Vehicle underbody painted
- X   2. The speed measuring devices are in place and functioning
- X   3. The speed measuring devices are   1.5   m from the barrier (spec. 1.5 m) and   30   cm from the barrier (spec. is 30 cm)
- X   4. Convertible top is in the closed position.  
  X   N/A – Not a convertible
- X   5. Instrumentation and wires are placed so the motion of the dummies during impact is not affected
- X   6. Tires inflated to pressure on tire placard or if it does not have a tire placard because it is not a passenger car, then inflated to the tire pressure specified in the owner information.  
  240   kPa front left tire   240   kPa specified on tire placard or in owner information  
  240   kPa front right tire   240   kPa specified on tire placard or in owner information  
  240   kPa rear left tire   240   kPa specified on tire placard or in owner information  
  240   kPa rear right tire   240   kPa specified on tire placard or in owner information
- X   7. Time zero markers and switches in-place
- X   8. Pre test zero and shunt calibration adjustments performed and recorded
- X   9. Dummy temperature meets requirements of section 12.2 of the test procedure.
- X   10. Vehicle hood closed and latched
- X   11. Transmission placed in neutral
- X   12. Parking brake off
- X   13. Ignition in the ON position
- X   14. Doors closed and latched but not locked
- X   15. Posttest zero and shunt calibration checks performed and recorded
- X   16. Actual test speed   39.2   km/h
- X   17. Vehicle rebound from the barrier   56.4   cm
- X   18. Describe whether the doors open after the test and what method is used to open the doors.  
Left front door   Easy    
Right front door   Easy    
Left rear door   NA    
Right rear door   NA
- X   19. Describe the contact points of the dummy with the interior of the vehicle.  
Driver dummy   Head contacted airbag, sun visor and side header. Chest contacted airbag. Both knees contacted knee bolster.    
Passenger dummy   Head contacted airbag and sun visor. Chest contacted airbag. Both knees contacted the glove box.

**DATA SHEET 34**  
**ACCIDENT INVESTIGATION MEASUREMENTS**

NHTSA No.: C30102 Test Date: 11/19/02

Laboratory: TRC Inc Test Technician(s): J Jenkins

Impact Angle: 0° Belted Dummies:      Yes   X   No

Test Speed:   X   32 to 40 km/h      0 to 48 km/h      0 to 56 km/h

Driver Dummy:      5<sup>th</sup> female   X   50<sup>th</sup> male Passenger Dummy:      5<sup>th</sup> female   X   50<sup>th</sup> male

Vehicle Year/Make/Model/Body Style: 2003/Chevrolet/Silverado/Pickup Truck

VIN: 1GCEC14X13Z131545

Wheelbase: 3387; Build Date: 08/02

Veh. Size Category: Pickup; Test Weight: 2295.7

Front Overhang: 1004; Overall Width: 1967

Veh. Impact Speed: 39.2; Vel. Change<sup>1</sup>: 44.0 km/h

Collision Deformation Classification (CDC) Code: 12FDEW2

<sup>1</sup> From integration of right rear seat crossmember X-axis acceleration.

Impact Mode: 0 Front

Crush Depth Dimensions<sup>1</sup>:

C1 - 340 mm

C2 - 407 mm

C3 - 442 mm

C4 = 444 mm

C5 - 399 mm

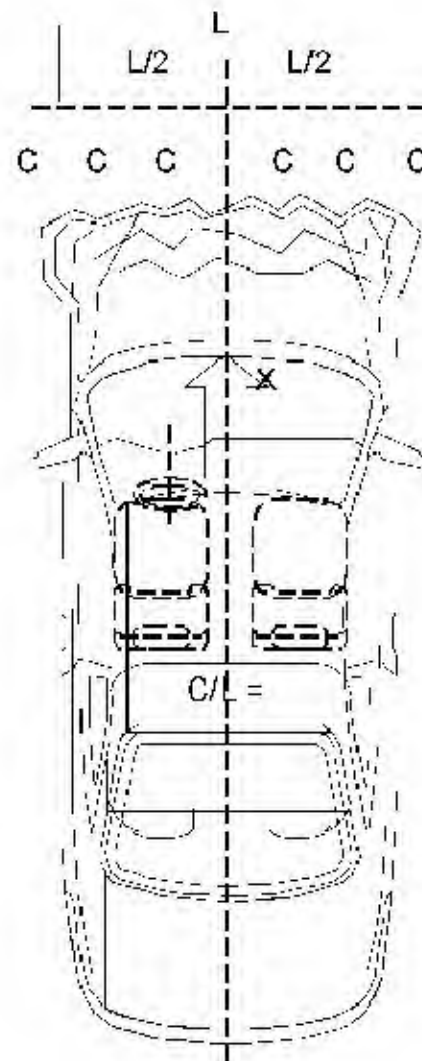
C6 - 354 mm

Midpoint of Damage, D- 0 mm  
(Left of Vehicle Longitudinal  
Centerline)

Length of Damage Region:

L - 1829 mm

REMARKS:



<sup>1</sup> Numbered from left to right of vehicle.



**DATA SHEET 35**  
**WINDSHIELD MOUNTING (FMVSS 212)**

NIITSA No.: C30102

Test Date: 11/19/02

Laboratory: TRC Inc Test Technician(s): D. Summers

Impact Angle: 0° Belted Dummies: Yes X No

Test Speed:	X	32 to 40 km/h	0 to 48 km/h	0 to 56 km/h
-------------	---	---------------	--------------	--------------

Driver Dummy: 5<sup>th</sup> female X 50<sup>th</sup> male Passenger Dummy: 5<sup>th</sup> female X 50<sup>th</sup> male

Most vehicle windshields are either bonded in place and covered with chrome or plastic strips or they are held to the body by a rubber retainer. It is difficult to determine the exact periphery of the windshield because the glazing edge is hidden from view. The test engineer will measure the perimeter inside the retainer or molding at several locations. After the impact test the covering over the glazing edge may be removed for exact measurement of the windshield periphery. Do not disturb the molding or retainer in the event of a noncompliance.

- X 1. Describe from visual inspection how the windshield is mounted and describe any trim material.  
Plastic trim around perimeter, held by adhesive around inner perimeter.  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
- X 2. Mark the longitudinal centerline of the windshield.  
X 3. Measure pre-crash A, B, and C for the left side and record in the chart below.  
X 4. Measure pre-crash C, D, and E for the right side and record in the chart below.  
X 5. Measure from the edge of the retainer or molding to the edge of the windshield.  
Dimension G: 20 mm
- X 6. Can a single thickness of copier type paper (as small a piece as necessary) slide between the windshield and the vehicle body?  
X No, pass.  
\_\_\_\_ Yes, go to 7.
- \_\_\_\_ 7. Visibly mark the beginning and end of the portions of the periphery where the paper slides between the windshield and the vehicle body.
- \_\_\_\_ 8. Measure and record post-crash A, B, C, D, E, and F such that the measurements do not include any of the parts of the windshield where the paper slides between the windshield and the vehicle body.
- \_\_\_\_ 9. Calculate and record the percent retention for the right and left side of the windshield.
- \_\_\_\_ 10. Is total right side percent retention less than 75%?  
\_\_\_\_ Yes, FAIL  
\_\_\_\_ No, Pass
- \_\_\_\_ 11. Is total left side percent retention less than 75%?  
\_\_\_\_ Yes, FAIL  
\_\_\_\_ No, Pass

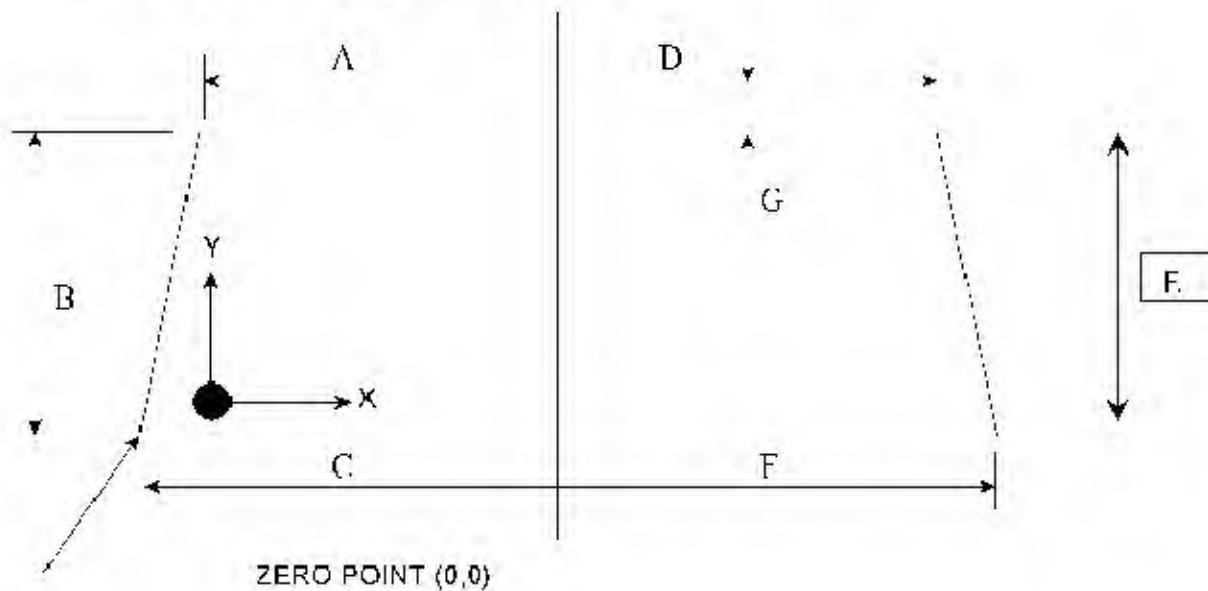
### WINDSHIELD PERIPHERY MEASUREMENT

	Dimension	Pre-crash mm	Post-crash mm	Percent Retention (Post-crash ÷ Pre-crash)
Left side	A	700	700	
	B	665	665	
	C	880	880	
	Total	2245	2245	100
Right side	D	700	700	
	E	665	665	
	F	880	880	
	Total	2245	2245	100
Width of Molding	G	18		

Indicate area of mounting failure.

### FRONT VIEW OF WINDSHIELD

INDICATE WIDTH OF MOLDING



**DATA SHEET 36**  
**WINDSHIELD ZONE INTRUSION (FMVSS 219)**

NHTSA No.: C30102 Test Date: 11/19/02

Laboratory: TRC Inc. Test Technician(s): N. Deheverria, D. Summers, K. Watkins

Impact Angle: 0° Belted Dummies:      Yes   X   No

Test Speed:   X   32 to 40 km/h      0 to 48 km/h      0 to 56 km/h

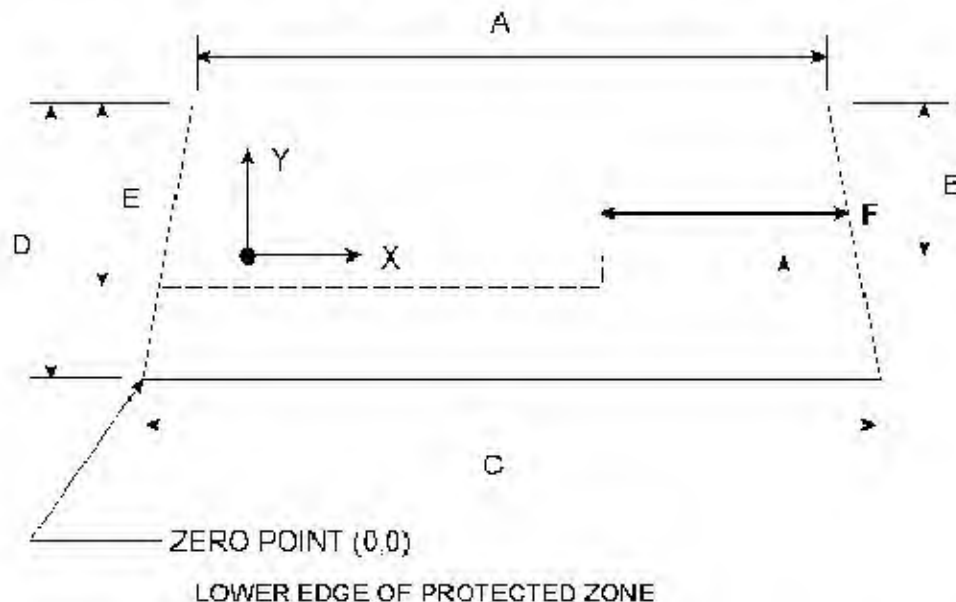
Driver Dummy:      5<sup>th</sup> female   X   50<sup>th</sup> male Passenger Dummy:      5<sup>th</sup> female   X   50<sup>th</sup> male

- X   1. Place a 165 mm diameter rigid sphere, with a mass of 6.8 kg on the instrument panel so that it is simultaneously touching the instrument panel and the windshield. (571.219 S6.1(a))
- X   2. Roll the sphere from one side of the windshield to the other while marking on the windshield where the sphere contacts the windshield. (571.219 S6.1(b))
- X   3. From the outermost contactable points on the windshield draw a horizontal line to the edges of the windshield. (571.219 S6.1(b))
- X   4. Draw a line on the inner surface of the windshield that is 13 mm below the line determined in items 2 and 3.
- X   5. After the crash test, record any points where a part of the exterior of the vehicle has marked, penetrated, or broken the windshield.

SKETCH OF FRONT VIEW OF WINDSHIELD:

Provide all dimensions necessary to reproduce the protected area.

**FRONT VIEW OF WINDSHIELD**



A Windshield Dimensions

A	B	C	D	E	F
1400	350	1760	665	447	915

**AREA OF PROTECTED ZONE FAILURES:**

- B. Provide coordinates of the area that the protected zone was penetrated more than 0.25 inches by a vehicle component other than one which is normally in contact with the windshield.

X	Y

- C. Provide coordinates of the area beneath the protected zone template that the inner surface of the windshield was penetrated by a vehicle component

X	Y

**REMARKS:**

No penetration into or beneath the protected zone.

**DATA SHEET 37**  
**FUEL SYSTEM INTEGRITY (FMVSS 301)**

TEST VEHICLE NHTSA NO.: C30102; TEST DATE: 11/19/02

VEHICLE YEAR/MAKE/MODEL/BODY STYLE: 2003/Chevrolet/Silverado/Pickup Truck

TYPE OF IMPACT: 0• Front

**STODDARD SOLVENT SPILLAGE MEASUREMENT.**

A From impact until vehicle motion ceases —

Actual = 0 grams. (Maximum Allowable = 28 grams)

B. For 5 minute period after vehicle motion ceases

Actual = 0 grams. (Maximum Allowable = 142 grams)

C. For next 25 minutes —

Actual = 0 grams. (Maximum Allowable = 28 grams/minute)

D Provide Spillage Details: None

**REMARKS:**

No spillage occurred during the interval between test time and the start of the rollover

## FMVSS 301 STATIC ROLLOVER DATA SHEET

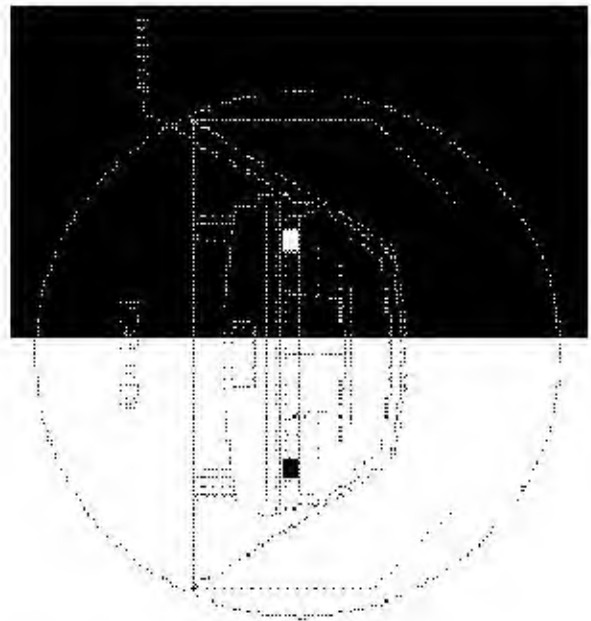
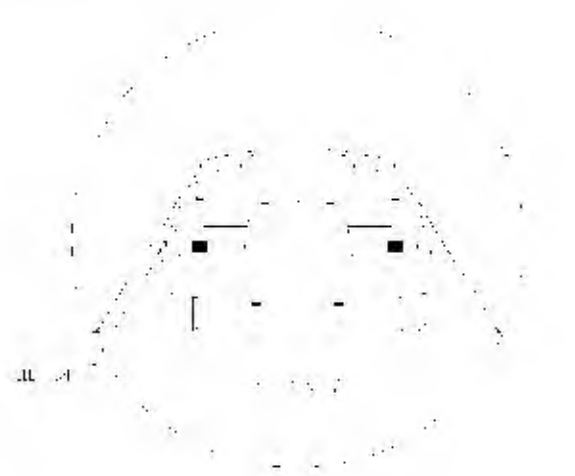
### A. TEST PHASE – 0° TO 90°

Determination of Stoddard  
Solvent Collection Time Period.

1. Rollover Fixture 90° Rotation Time –  
1 minutes, 30 seconds  
(Specified Range is 1 to 3 minutes)
2. FMVSS 301 Position Hold  
Time – 5 minutes, 0 seconds
3. TOTAL – 6 minutes, 30 seconds
4. NEXT WHOLE MINUTE INTERVAL –  
7 minutes

Actual Test Vehicle Stoddard Solvent Spillage:

1. First 5 minutes from onset of  
rotation = 0 grams  
(142 grams allowed)
2. 6th minute = 0 grams  
(28 grams allowed)
3. 7th minute = 0 grams  
(28 grams allowed)
4. 8th minute (if required) = NA grams  
(28 grams allowed)



Provide Details of Stoddard Solvent Spillage Locations – None

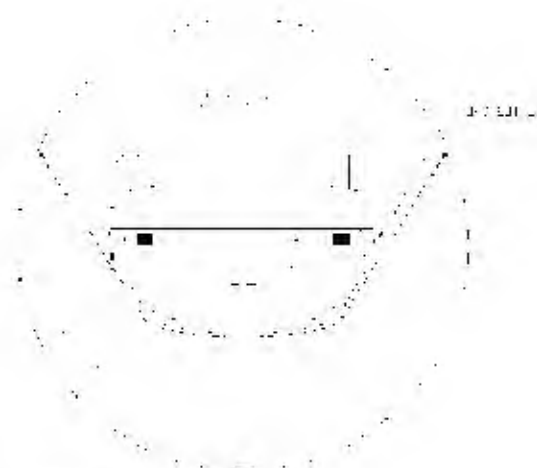
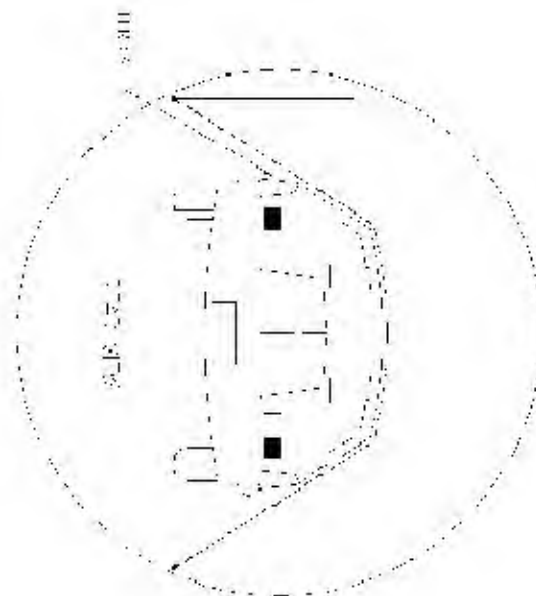
**B TEST PHASE = 90° TO 180°**

**Determination of Stoddard  
Solvent Collection Time Period**

1. Rollover Fixture 90° Rotation Time =  
1 minutes, 30 seconds  
(Specified Range is 1 to 3 minutes)
2. FMVSS 301 Position Hold  
Time = 5 minutes, 0 seconds
3. TOTAL = 6 minutes, 30 seconds
4. NEXT WHOLE MINUTE INTERVAL –  
7 minutes

**Actual Test Vehicle Stoddard  
Solvent Spillage**

1. First 5 minutes from onset of  
rotation – 0 grams  
(142 grams allowed)
2. 6th minute – 0 grams  
(28 grams allowed)
3. 7th minute – 0 grams  
(28 grams allowed)
4. 8th minute (if required) – NA grams  
(28 grams allowed)



**Provide Details of Stoddard Solvent Spillage Locations** None



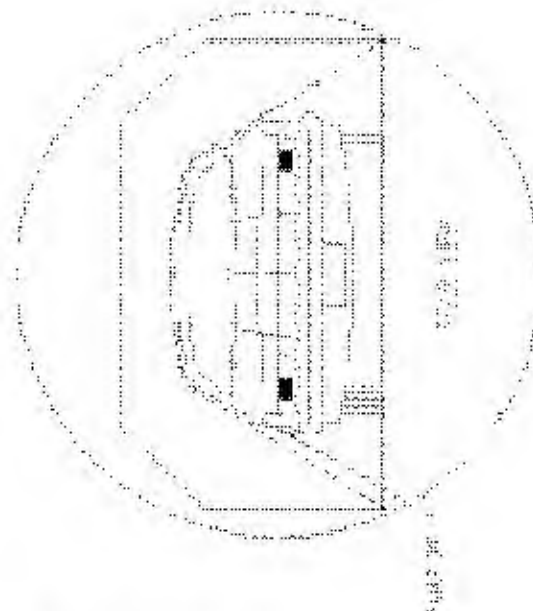
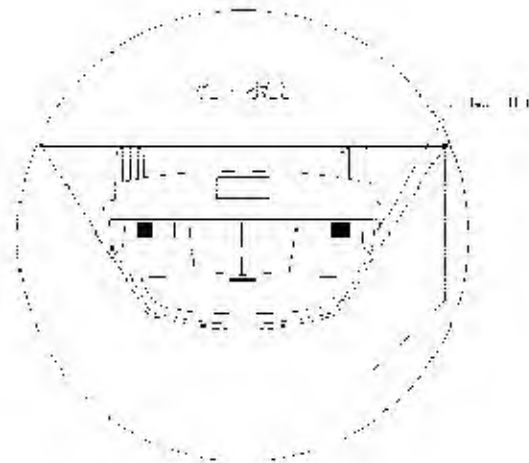
C. TEST PHASE – 180° TO 270°

Determination of Stoddard  
Solvent Collection Time Period

1. Rollover Fixture 90° Rotation Time –  
1 minutes, 30 seconds  
(Specified Range is 1 to 3 minutes)
2. FMVSS 301 Position Hold  
Time – 5 minutes, 0 seconds
3. TOTAL – 6 minutes, 30 seconds
4. NEXT WHOLE MINUTE INTERVAL –  
7 minutes

Actual Test Vehicle Stoddard  
Solvent Spillage

1. First 5 minutes from onset of  
rotation = 0 grams  
(142 grams allowed)
2. 6th minute = 0 grams  
(28 grams allowed)
3. 7th minute = 0 grams  
(28 grams allowed)
4. 8th minute (if required) = NA grams  
(28 grams allowed)



Provide Details of Stoddard Solvent Spillage Locations – None

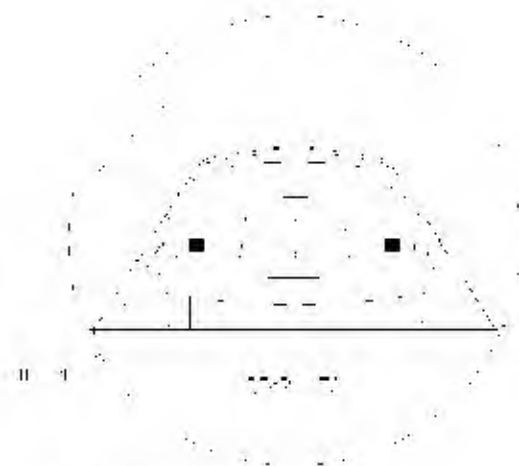
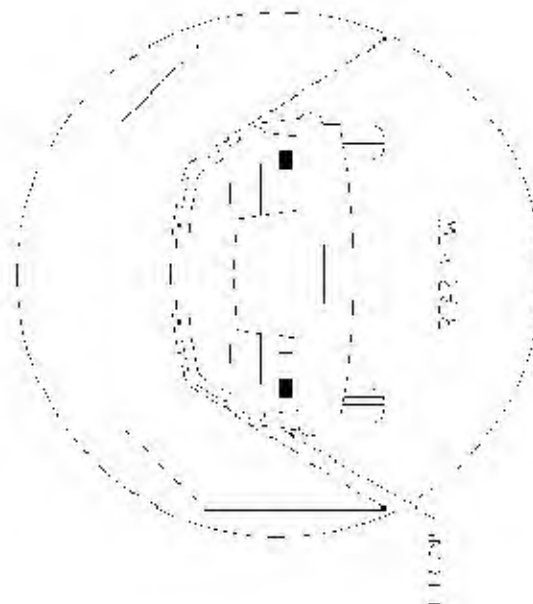
D. TEST PHASE – 270° TO 360°

Determination of Stoddard  
Solvent Collection Time Period

1. Rollover Fixture 90° Rotation Time –  
1 minutes, 30 seconds  
(Specified Range is 1 to 3 minutes)
2. FMVSS 301 Position Hold  
Time – 5 minutes, 0 seconds
3. TOTAL – 6 minutes, 30 seconds
4. NEXT WHOLE MINUTE INTERVAL –  
7 minutes

Actual Test Vehicle Stoddard  
Solvent Spillage

1. First 5 minutes from onset of  
rotation = 0 grams  
(142 grams allowed)
2. 6th minute = 0 grams  
(28 grams allowed)
3. 7th minute = 0 grams  
(28 grams allowed)
4. 8th minute (if required) = NA grams  
(28 grams allowed)



Provide Details of Stoddard Solvent Spillage Locations – None

## Section 6

### Test Data

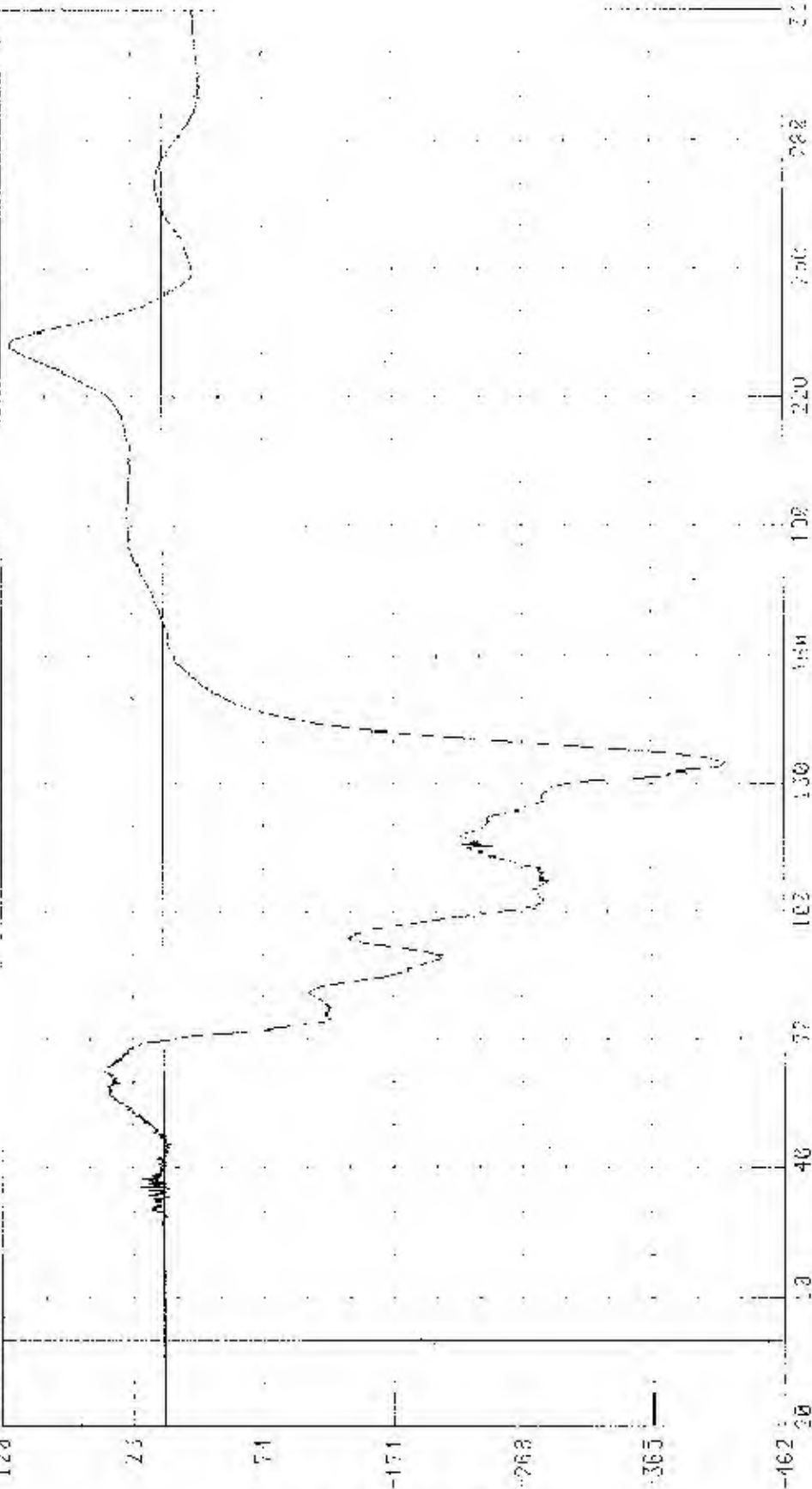
C30192 / 2003 CITY 200 FI SILVERADO 1500 2WD REGULAR CAB

DRIVER HARD X-AXIS ACCELERATION

24053200 FLA\* R0014LXUNBL FI

RC INC.

LSI 40810-1- 822 115-1



CHANNEL: AILER01 FILTER: CH CLPSS: 1000

TIME (MS)

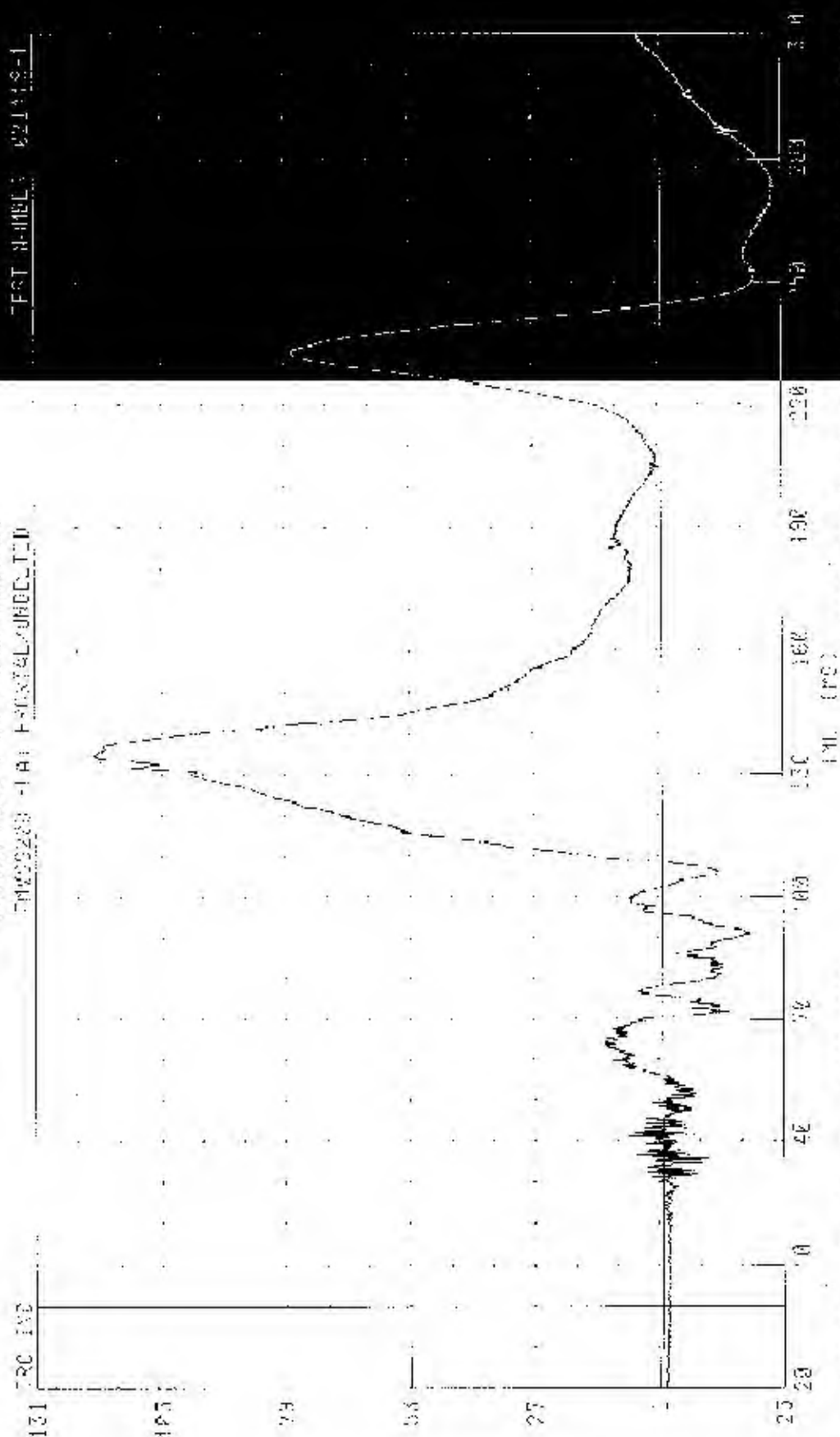
PEAK DATA 1: 82.0 3 232.24 MS -1: 53.0 8 117.80 MS

2023-03-27 15:00:00

1012 WALKER LANE, YONKERS, N.Y. 10556

IMAGES - 19: PHOTOGRAPHED

-FEST H-HEIL: 62149-1



22

$\text{Fe}^{+2}$   $\text{Fe}^{+3}$   $\text{Mn}^{+2}$   $\text{Mn}^{+4}$   $\text{Co}^{+2}$   $\text{Ni}^{+2}$   $\text{Cu}^{+2}$   $\text{Zn}^{+2}$

001367 0 41 1953-7447

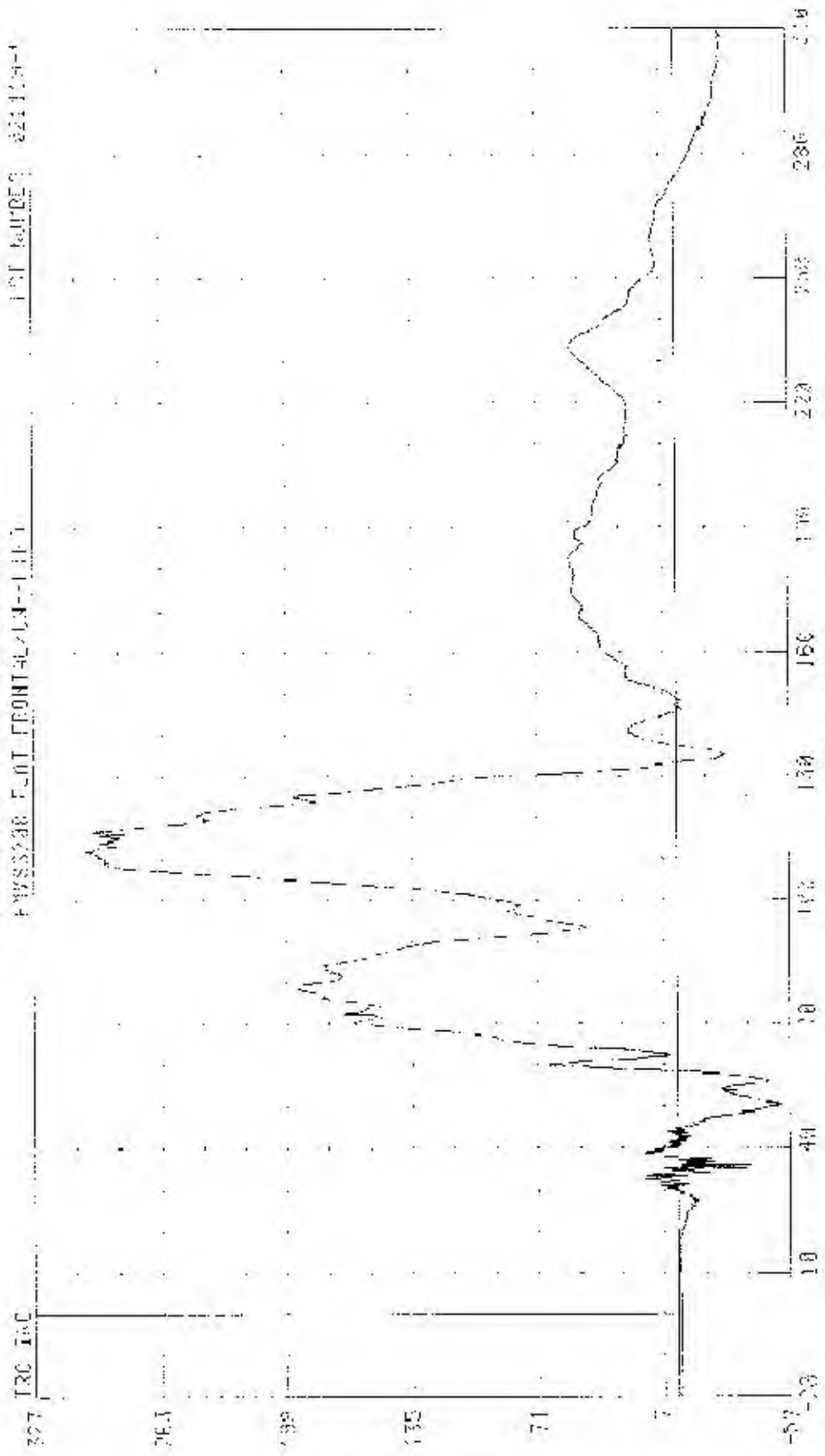
01-07-80 001178-1006

03/01/22 2025 CHEVROLET EQUINOX 1500 2WD REGULAR DRD

DRIVER A-60 7-8X18 FUEL ECONOMY

PHYS230 FRONT-4/L-4--1-1-1

LOT NUMBER 021119-1



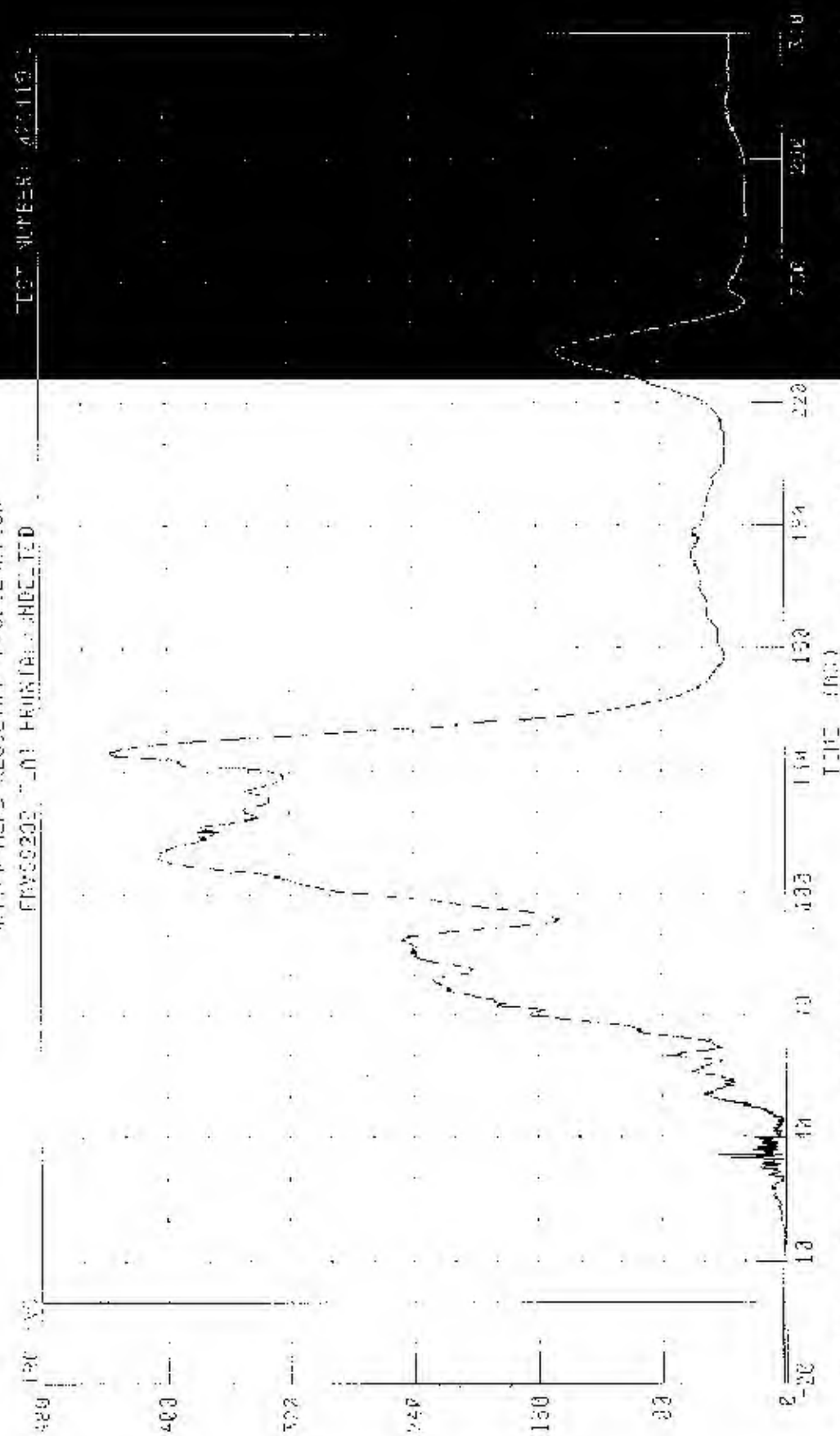
CHANNEL F0707 FLICR CH. C-688 10.00

PEAK DATA 32.19 0.0 100.00 MS -5.21 0.0 52.32 MS

038107 / 0005 CHARACTERISTICS WITH AVERAGE 175

DRIVER HEAD RESOLING ACCELERATION

FMVSS203 - 01 PRIN (A) UNDELETED



(1-01) X (2) NC 10000000

CHANNEL: HEDRCH F1: ER: CHL: CLASS: FREQ

PEAK DATA: 42.83 0.0 104.83 0.0 225.0 0.0 330.0 0.0



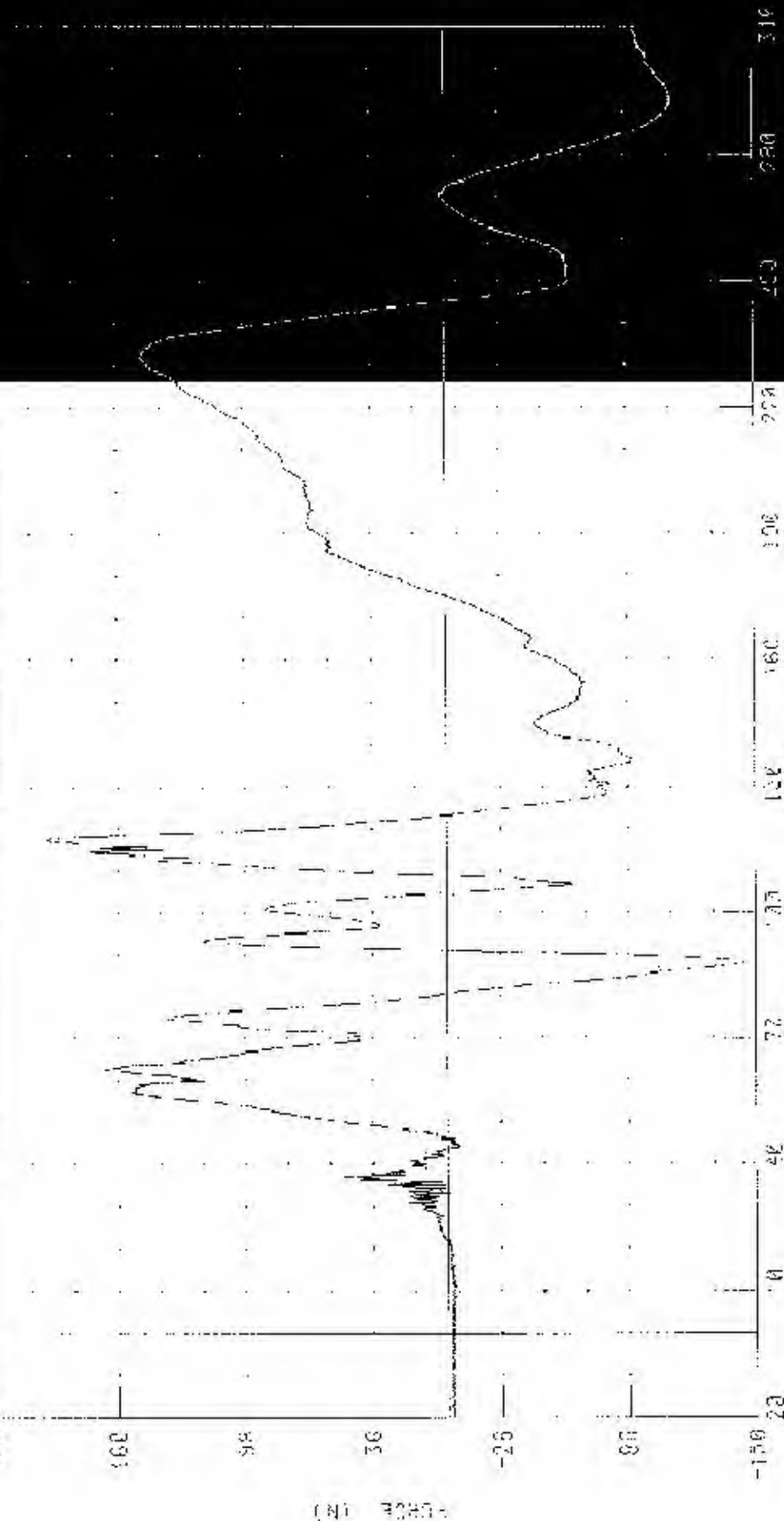
1.04167 X 2003 CHEVROLET CO. VEHICLE WITH 2ND REGULAR CRP

DRIVER RAY, YAYIS SACHR F030E

ENV00260 F.01 EXCH/AL/UNDT TFC

TFC INC.

TFC NUMBER: 021119-1



TIME (MS)

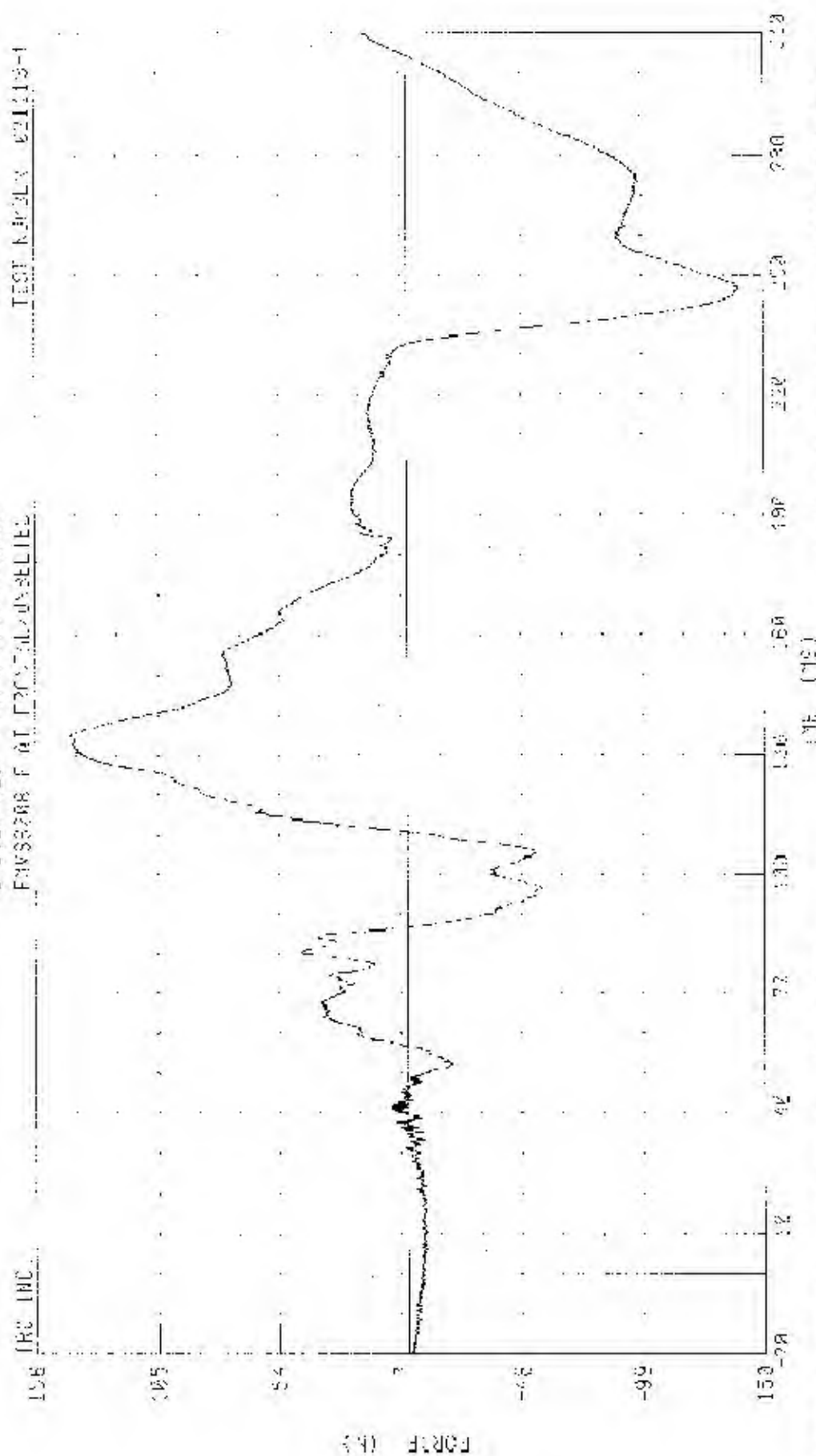
PEAK C110: 194.10 N M 217.30 MS, -154.22 V @ 87.90 MS

CHANNEL NEXH1 FILTER C- 11488 1600

33803 261HS 5 XU-Y 207A 2A 227

FRUGES IN LUGALIA

TEST NUMBER 021219-1



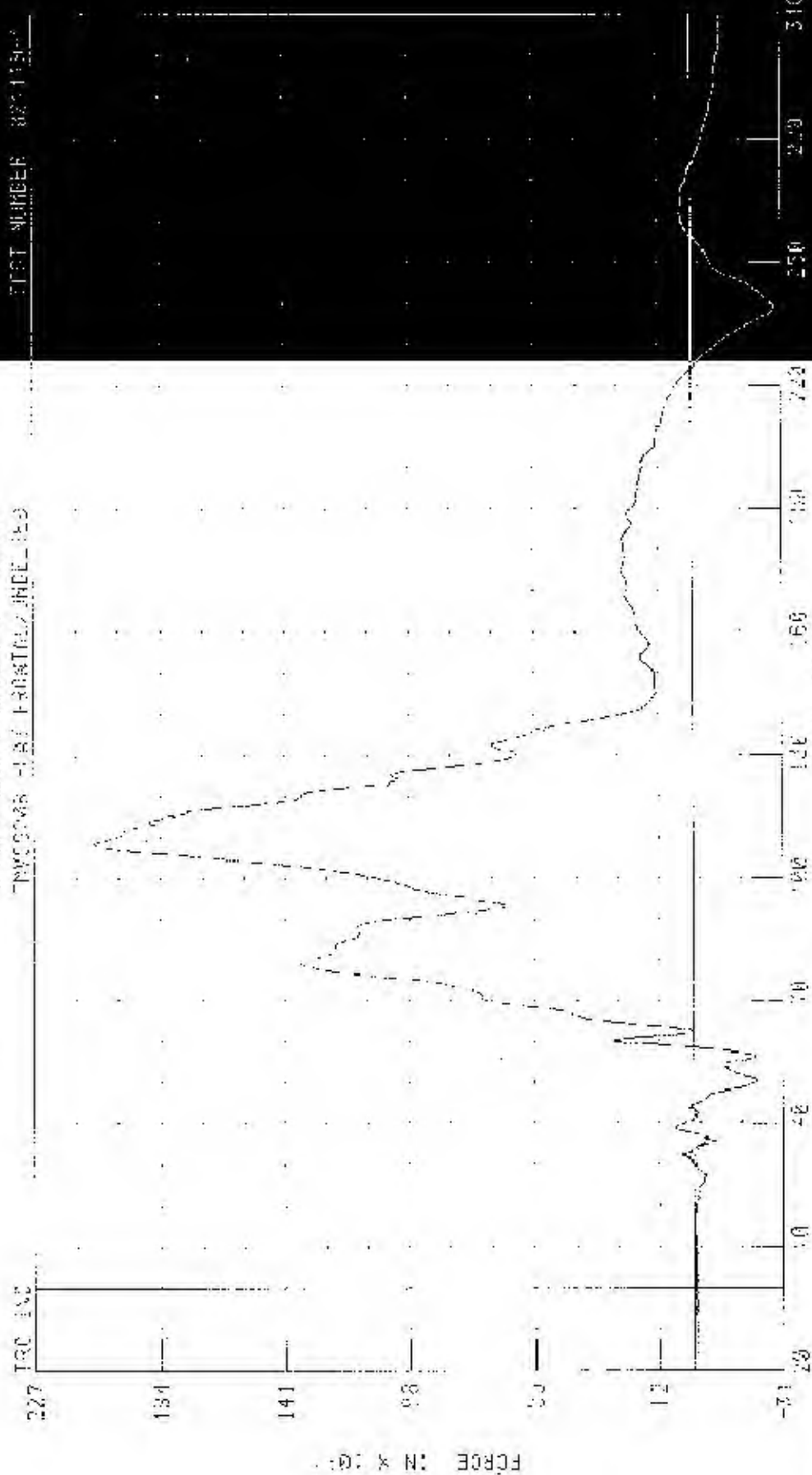
CHANNEL KEYS: 1 FR C CL433 1302

030102 / 0043 "HEAVY" 1502 2ND REGULAR CAR

DRIVER: MICK Z ONIS GRIM - FORD

TWOCOMR HAT FRONTAL INDE 150

TEST NUMBER 821119-1



TIME IN

CHANNEL: N-K/11 FILTER: CH. CLIP: 100%

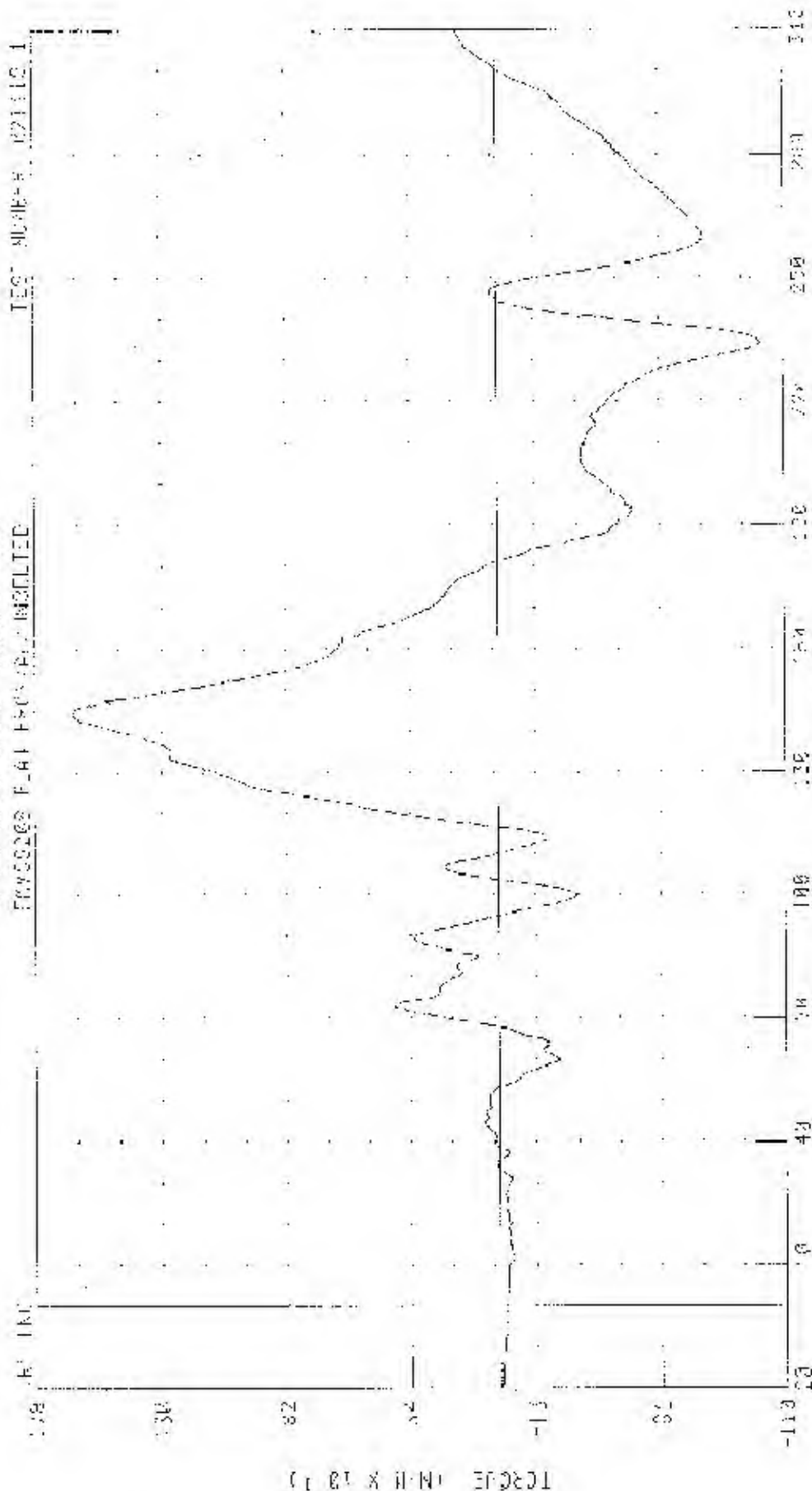
PEAK DATA: 2000.00 N 3.103.48 V 11.28.13 V 0.248.24 F 5

030102 X MAX HEAVYLET SPECTRUM FOR 2ND REGULAR CASE

DETAILED PLOT OF 101207 ABOUT X AXIS

PROCESSED DATA FROM 101207

TEST NUMBER: 021119-1



WAVELENGTH (nm)

PEAK DATA: 18.30 41.2 144.88 185.1 210.11 254.5 285.1

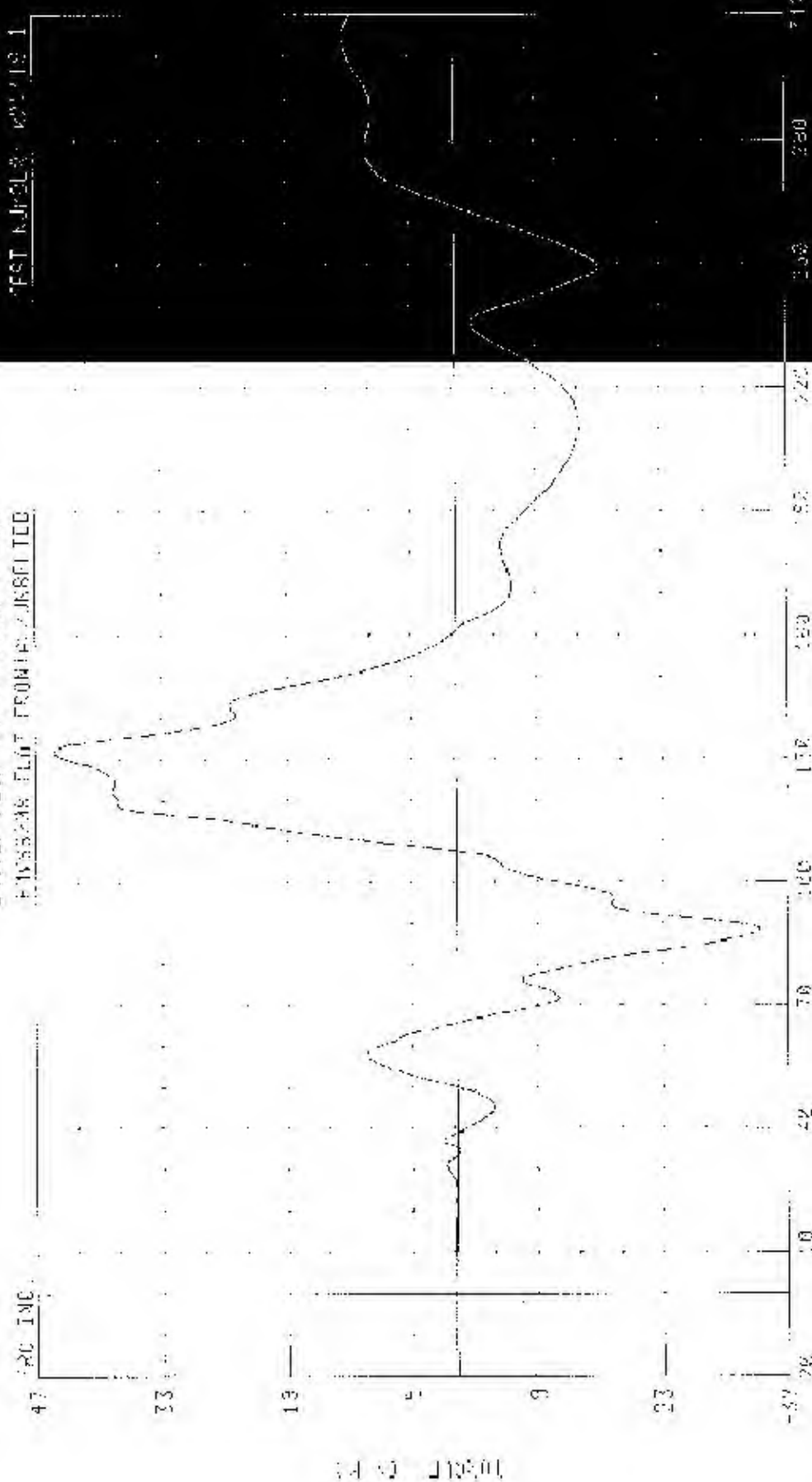
CHANNEL NUMBER: 101207 CL. CLASS: 500

10:22 / 2003 CH2040 FT STH VEH 4000 ZWD REND 18 24-

DRIVER BECK CURRENT ABOUT Y 2418

PHYSICS PLT FROMIES / INSPLITD

TEST KJ0213-000018-1



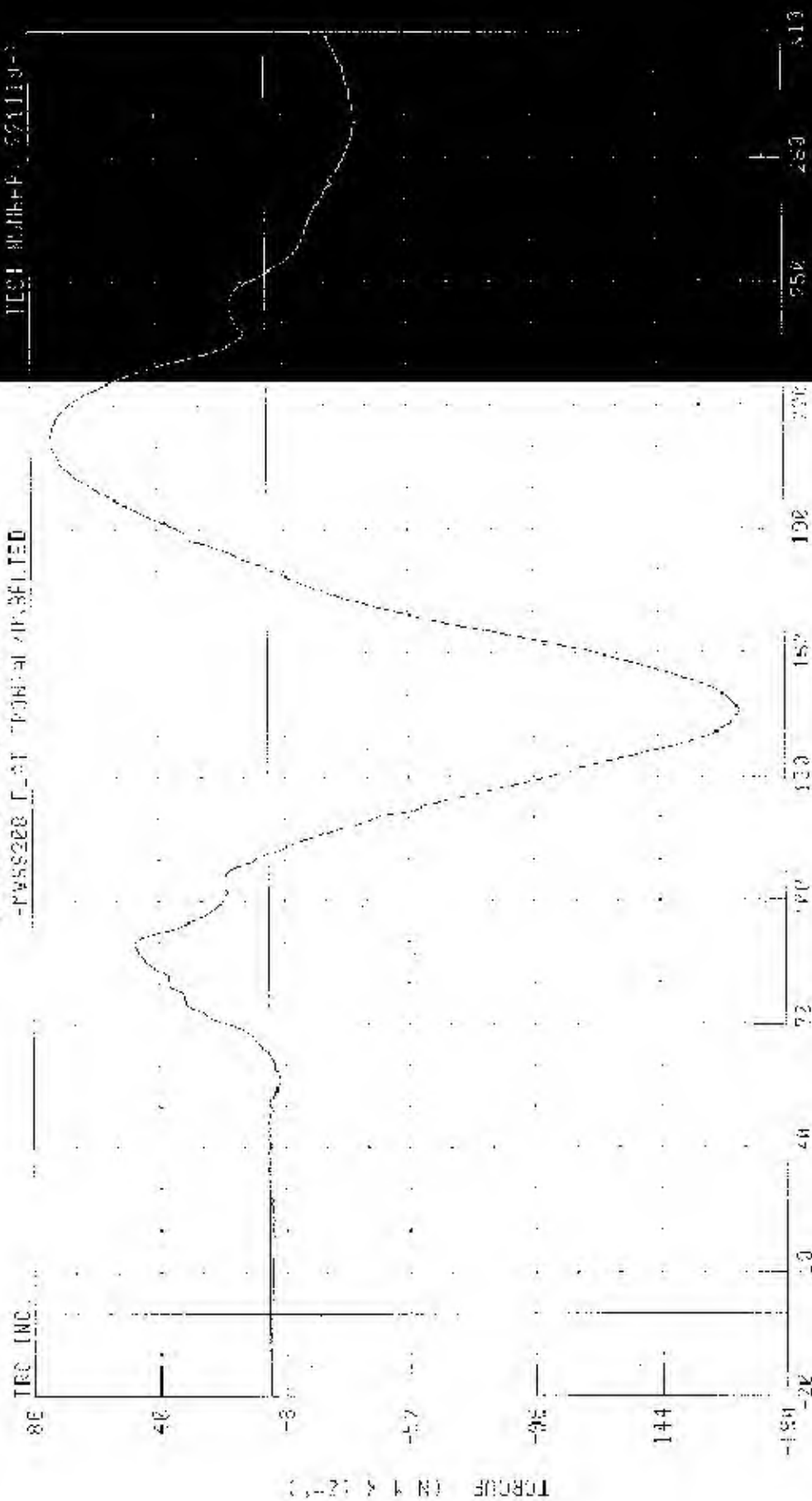
CHANNEL A-KYH1 FILTER ON CLASS 000  
 1 47 (HCS)  
 BECK DATA 40 00 4 0 0 131.52 12 43.50 18 2 38 48 18

12345678910111213141516171819202122232425262728293031323334353637383940414243444546474849505152535455565758596061626364656667686970717273747576777879808182838485868788899091929394959697989910010110210310410510610710810911011111211311411511611711811912012112212312412512612712812913013113213313413513613713813914014114214314414514614714814915015115215315415515615715815916016116216316416516616716816917017117217317417517617717817918018118218318418518618718818919019119219319419519619719819920020120220320420520620720820921021121221321421521621721821922022122222322422522622722822923023123223323423523623723823924024124224324424524624724824925025125225325425525625725825926026126226326426526626726826927027127227327427527627727827928028128228328428528628728828929029129229329429529629729829930030130230330430530630730830931031131231331431531631731831932032132232332432532632732832933033133233333433533633733833934034134234334434534634734834935035135235335435535635735835936036136236336436536636736836937037137237337437537637737837938038138238338438538638738838939039139239339439539639739839940040140240340440540640740840941041141241341441541641741841942042142242342442542642742842943043143243343443543643743843944044144244344444544644744844945045145245345445545645745845946046146246346446546646746846947047147247347447547647747847948048148248348448548648748848949049149249349449549649749849950050150250350450550650750850951051151251351451551651751851952052152252352452552652752852953053153253353453553653753853954054154254354454554654754854955055155255355455555655755855956056156256356456556656756856957057157257357457557657757857958058158258358458558658758858959059159259359459559659759859960060160260360460560660760860961061161261361461561661761861962062162262362462562662762862963063163263363463563663763863964064164264364464564664764864965065165265365465565665765865966066166266366466566666766866967067167267367467567667767867968068168268368468568668768868969069169269369469569669769869970070170270370470570670770870971071171271371471571671771871972072172272372472572672772872973073173273373473573673773873974074174274374474574674774874975075175275375475575675775875976076176276376476576676776876977077177277377477577677777877978078178278378478578678778878979079179279379479579679779879980080180280380480580680780880981081181281381481581681781881982082182282382482582682782882983083183283383483583683783883984084184284384484584684784884985085185285385485585685785885986086186286386486586686786886987087187287387487587687787887988088188288388488588688788888989089189289389489589689789889990090190290390490590690790890991091191291391491591691791891992092192292392492592692792892993093193293393493593693793893994094194294394494594694794894995095195295395495595695795895996096196296396496596696796896997097197297397497597697797897998098198298398498598698798898999099199299399499599699799899910001001100210031004100510061007100810091010101110121013101410151016101710181019102010211022102310241025102610271028102910301031103210331034103510361037103810391040104110421043104410451046104710481049105010511052105310541055105610571058105910601061106210631064106510661067106810691070107110721073107410751076107710781079108010811082108310841085108610871088108910901091109210931094109510961097109810991100110111021103110411051106110711081109111011111112111311141115111611171118111911201121112211231124112511261127112811291130113111321133113411351136113711381139114011411142114311441145114611471148114911501151115211531154115511561157115811591160116111621163116411651166116711681169117011711172117311741175117611771178117911801181118211831184118511861187118811891190119111921193119411951196119711981199120012011202120312041205120612071208120912101211121212131214121512161217121812191220122112221223122412251226122712281229123012311232123312341235123612371238123912401241124212431244124512461247124812491250125112521253125412551256125712581259126012611262126312641265126612671268126912701271127212731274127512761277127812791280128112821283128412851286128712881289129012911292129312941295129612971298129913001

# THE NEW YORK PUBLIC LIBRARY

DELIVERED BY 0253564-

TEL: 0114-2511111

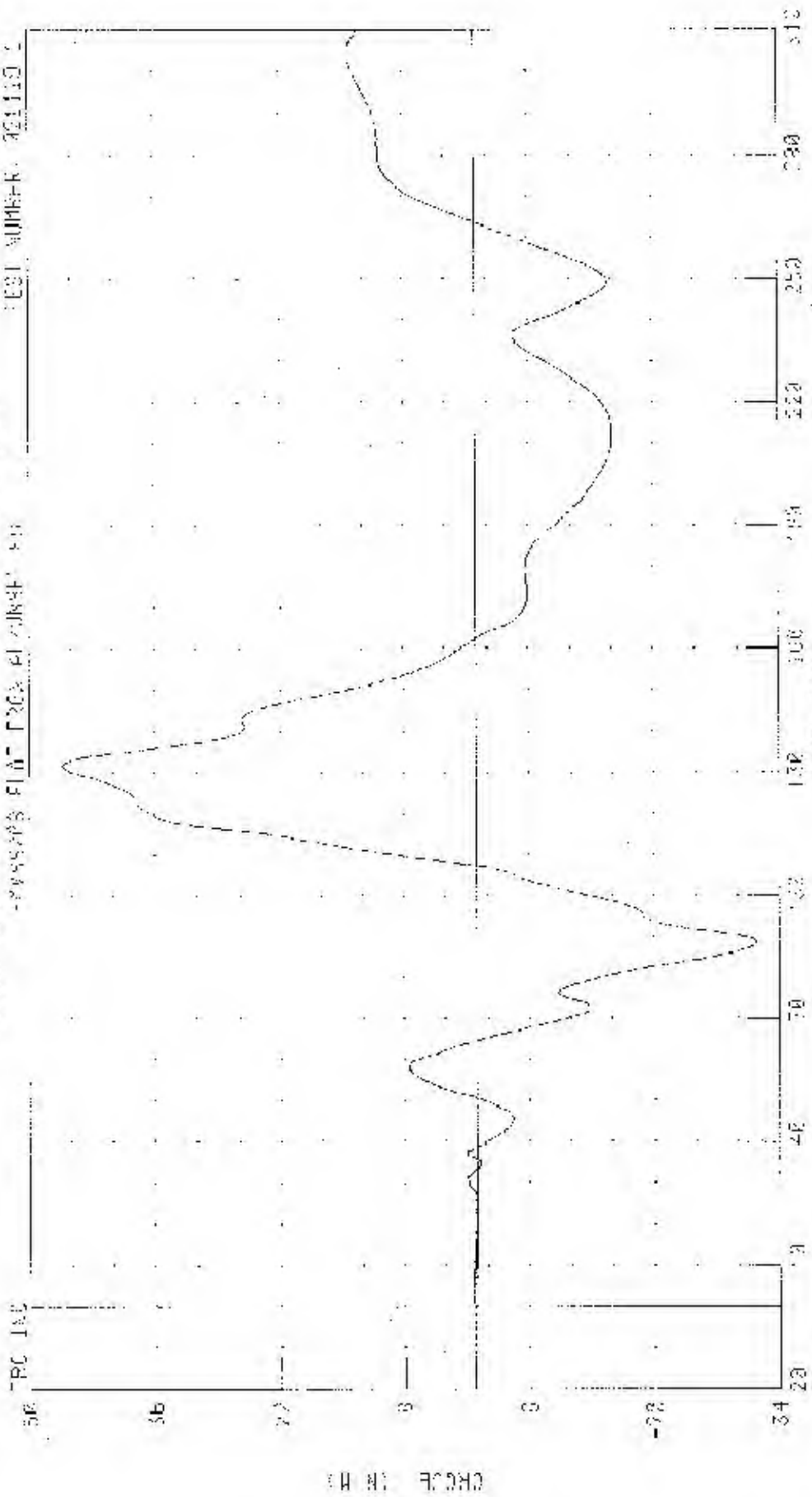


三、

[illegible]

CLARK: 14777  
CLARK: 14777

LEON WILKINSON



CHANNEL ARCHITECTURE CLASSES CODE

PEAK DATA 45.14 46.73 49.92 51.35 51.50 51.52 52.19



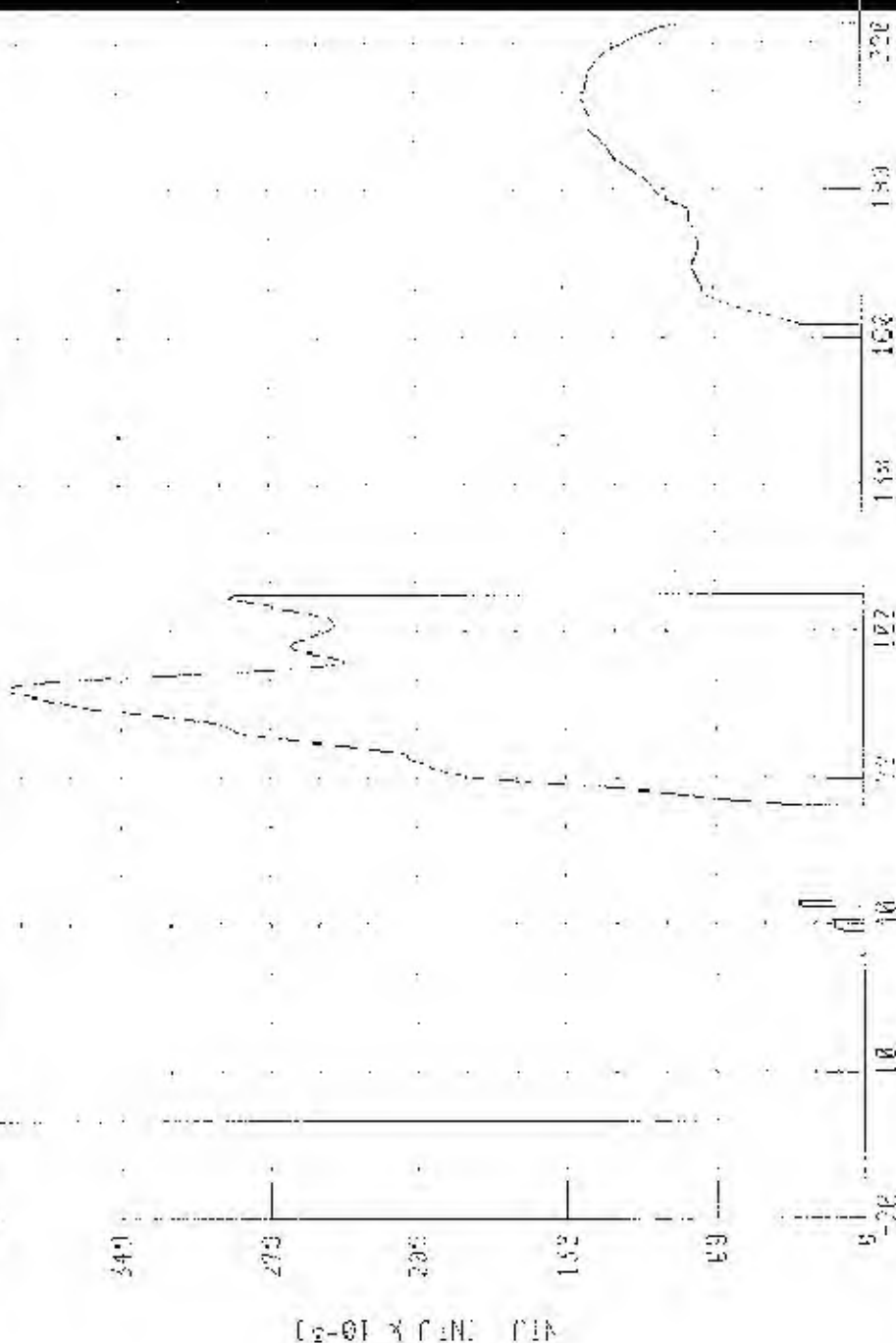
052102 / 2025 CIPYR00.EI SILVERADO 1502 2W1 REGULAR 1403

EP 14R 4.0 TENSIOCONCENTRATION

EXP00208 HAI FRONTAL/URBE...S

INC INC

TEST NUMBER 021119-1



CHANNEL: N1L1 FILTER: CH CLASS: 010

TIME (MIN)

021119-1

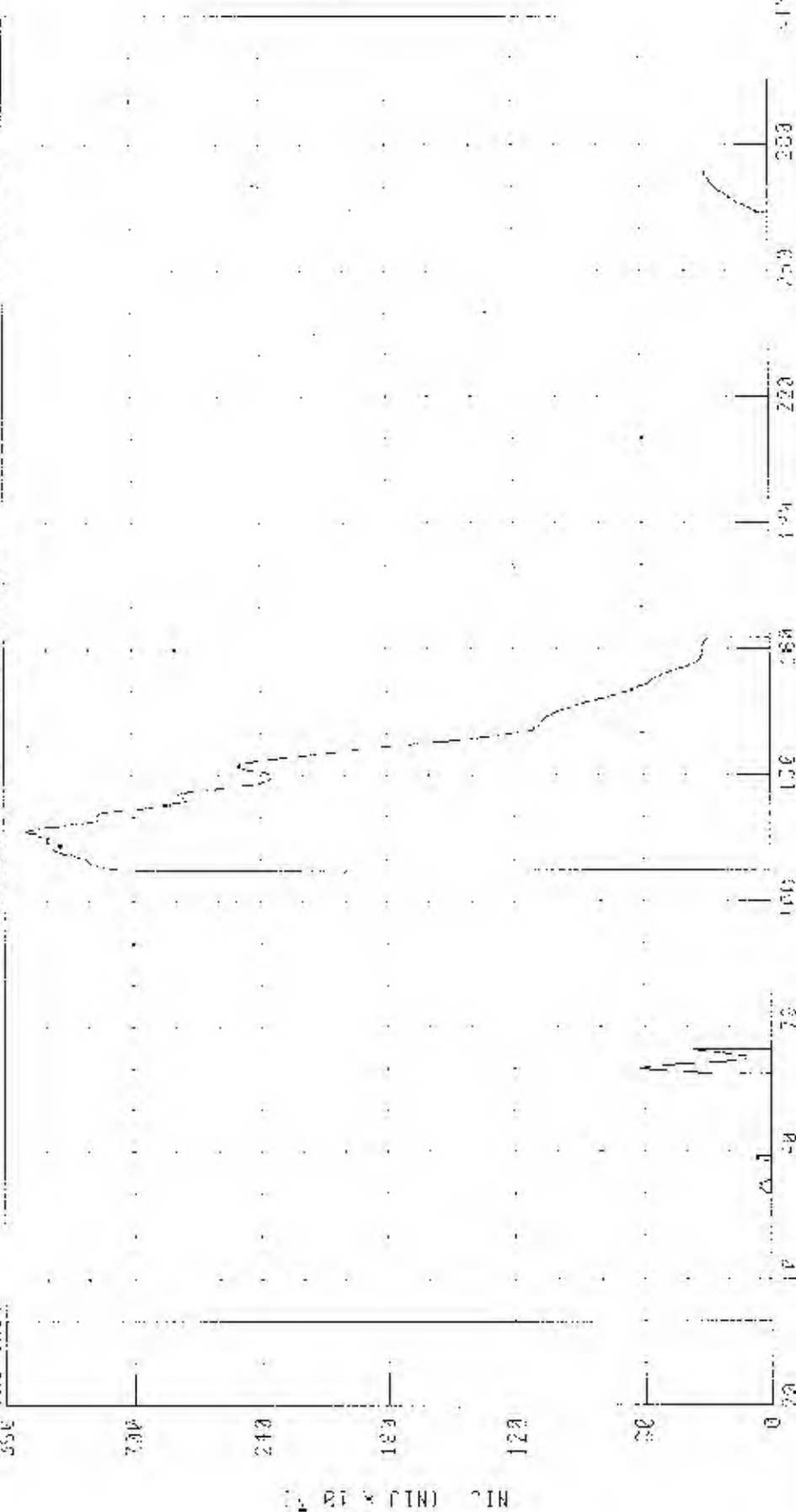
030132 \* 2007 F040401E \* 0.1% C18-ED0 1700 200.00 0.00 0.00 0.00

0.000000 0.000000 0.000000 0.000000

0.000000 0.000000 0.000000 0.000000

0.000000 0.000000 0.000000 0.000000

0.000000 0.000000 0.000000 0.000000



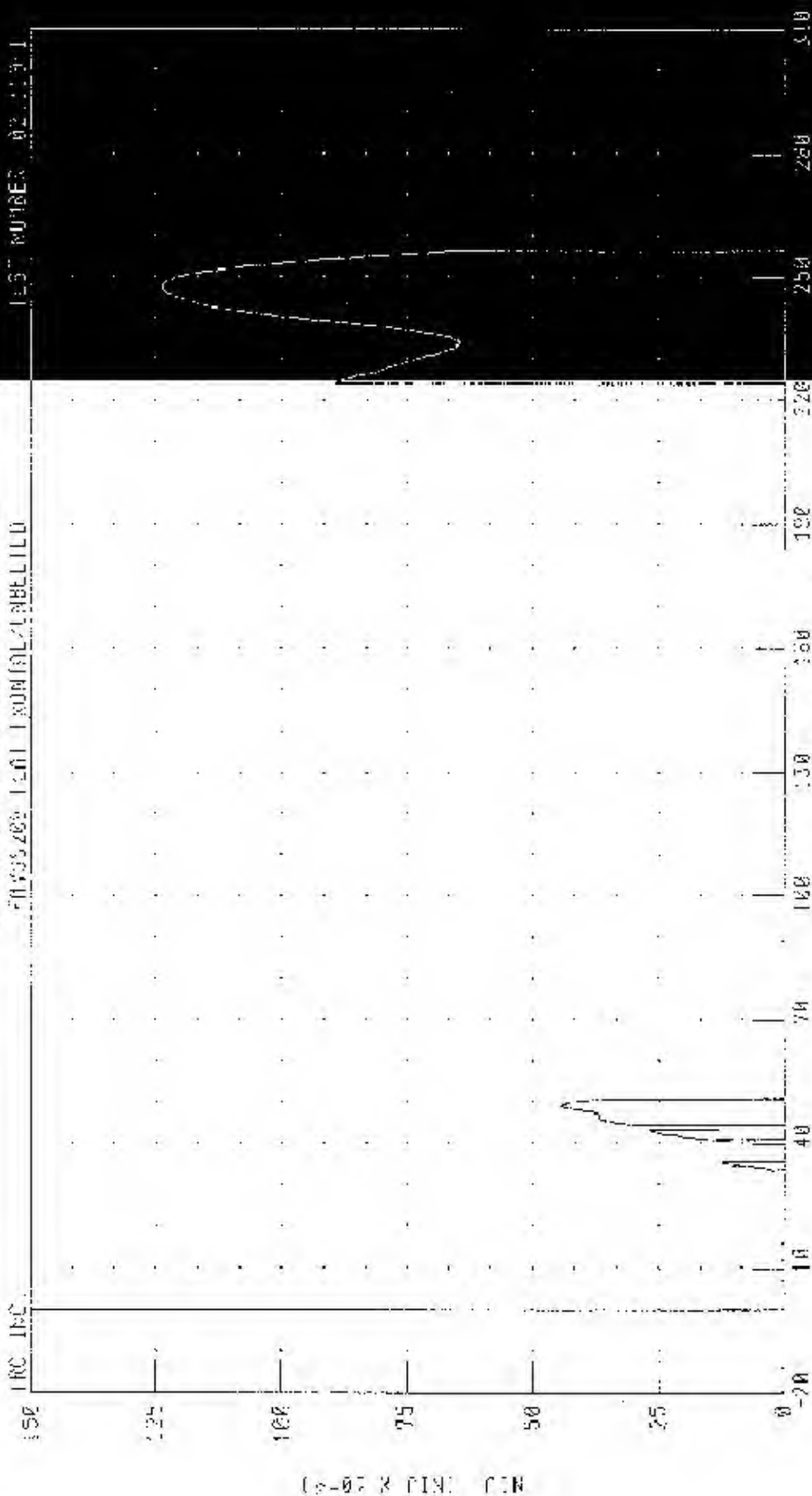
0.000000 0.000000 0.000000 0.000000

030102 / 0003 THEVPLET SILVERADO 1500 2V0 REGULAR CAB

CRUISE NO. COMPRESSION EXTENSION

7005200 1401 1X0M10L/1N00L110

1437 NUMBER 02-1119-1



12-07 X TIME 0.1N

CHANNEL: A10-1

FILTER: CH. CLASS 60K

TIME (MS)

PEAK DATA: 0.12 NIJ @ 248.03 MS, 0.30 NIJ @ -20.00 MS

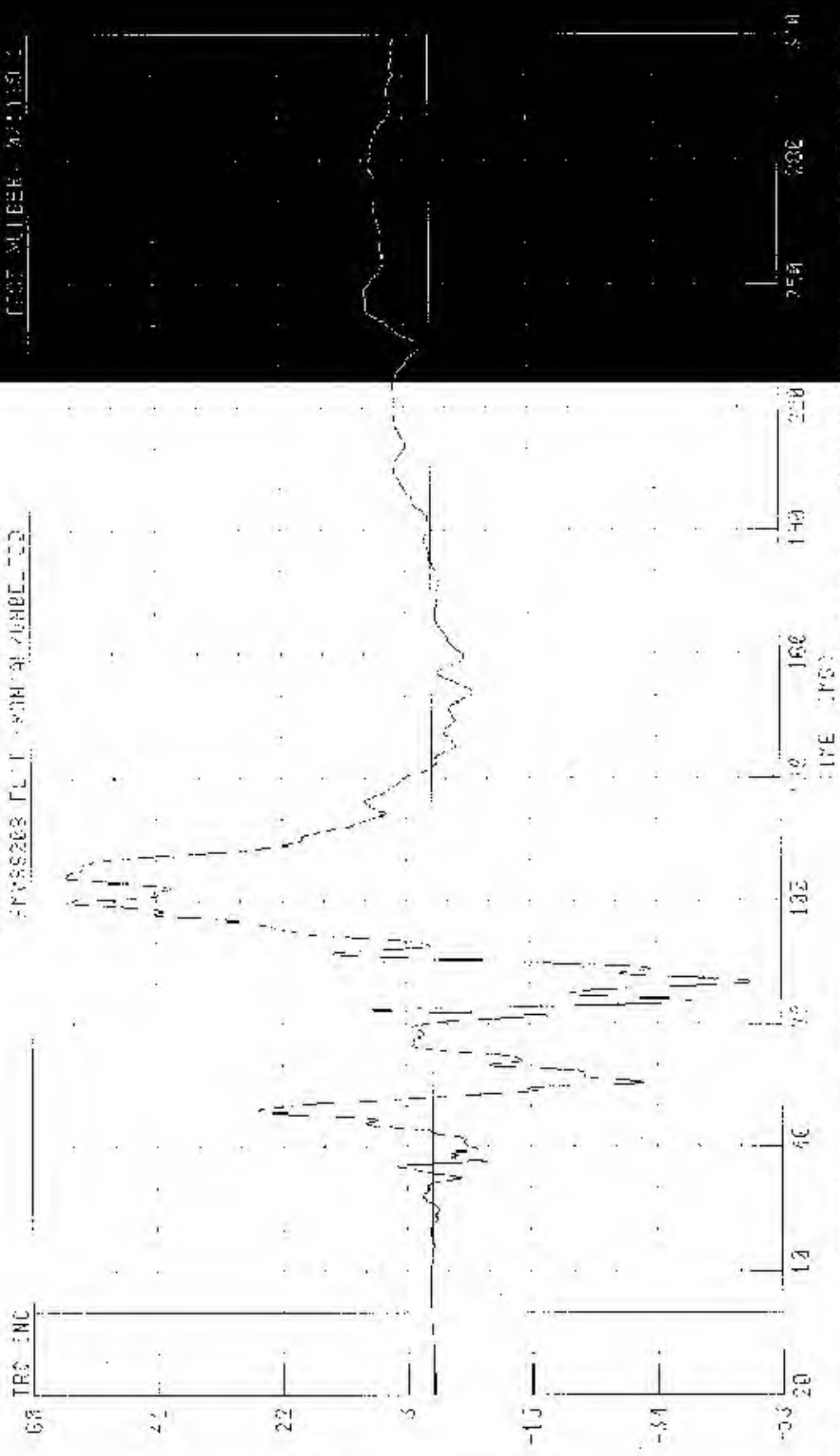




030102 - 2000 CH-9000E - 11.00 2V0 RES00 00 000

DRIVER CH-9000 1-Axis Accelerometer  
 40000000 Hz 1-Axis Accelerometer

TEST NUMBER: 0011001



CHANNEL: 0011001 FILTER: 00 CLASS: 100

1-800-441-0211

[illegible]

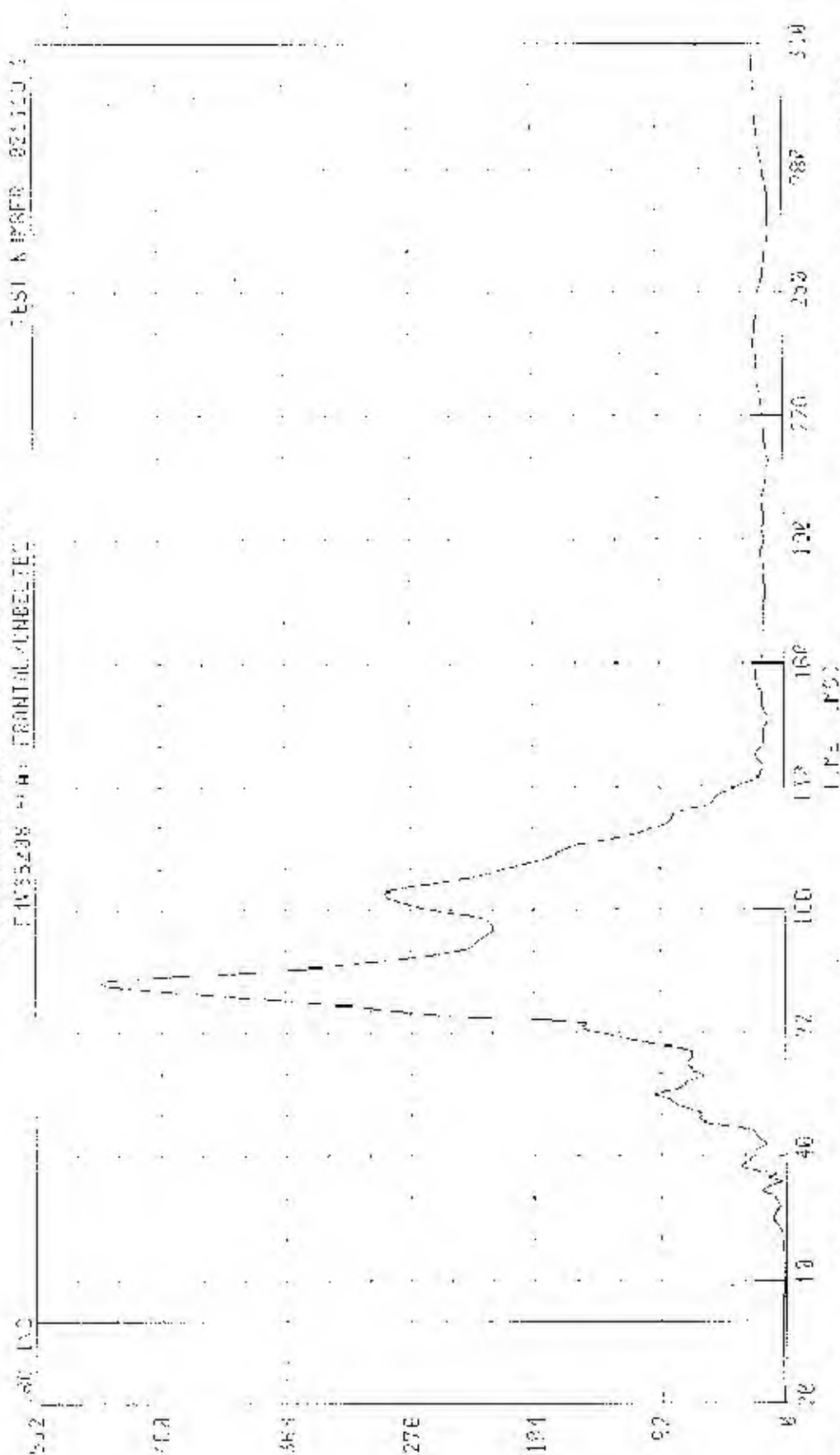


030102 / 100% CHEVROLET SILVERADO 1500 2WD 460168 1AD

DRIVER SEAT BELT FASTENING

FW35438 HW: FRONTAL UNBELTED

TEST NUMBER 021119-1



(1-4, 8, 10) KOLLMEIER 1000

0-4NMU: 001002 FILTER: 0.5 0.400 0.60

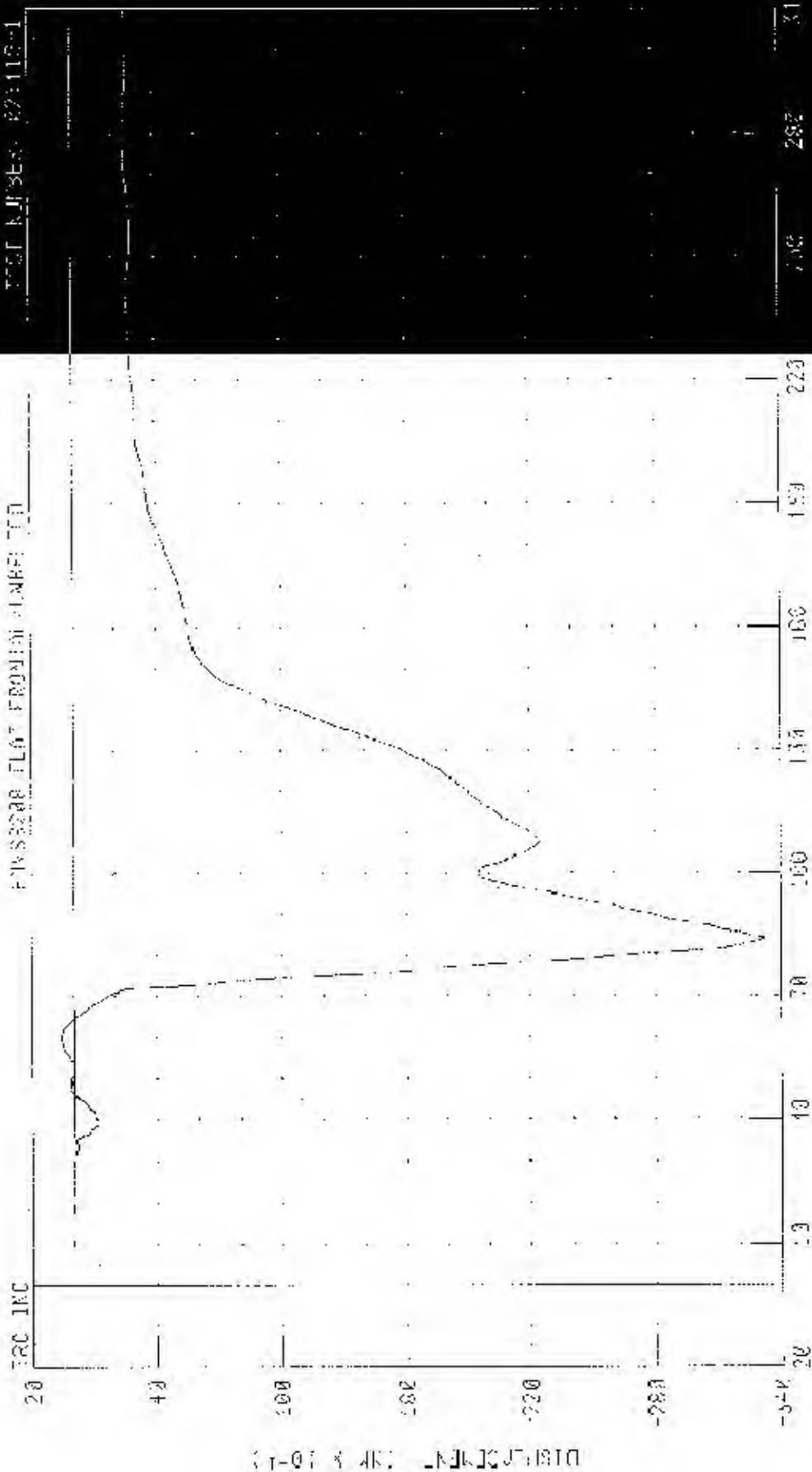
PRG TRIP: 02.03 D 0 02 79 15. 4.01 0.0 0.00 0.0 1.2

030102 - 2003 CHEVROLET SILVERADO 1500 2WT REGULAR GAS

BR155 CHEST BLUE, OK

PMV5200 FLAT FRODOX NUMBER 710

TEST NUMBER: 021119-1



0-4000LL - 051001 - FILTER - 011 - CLASS - 000

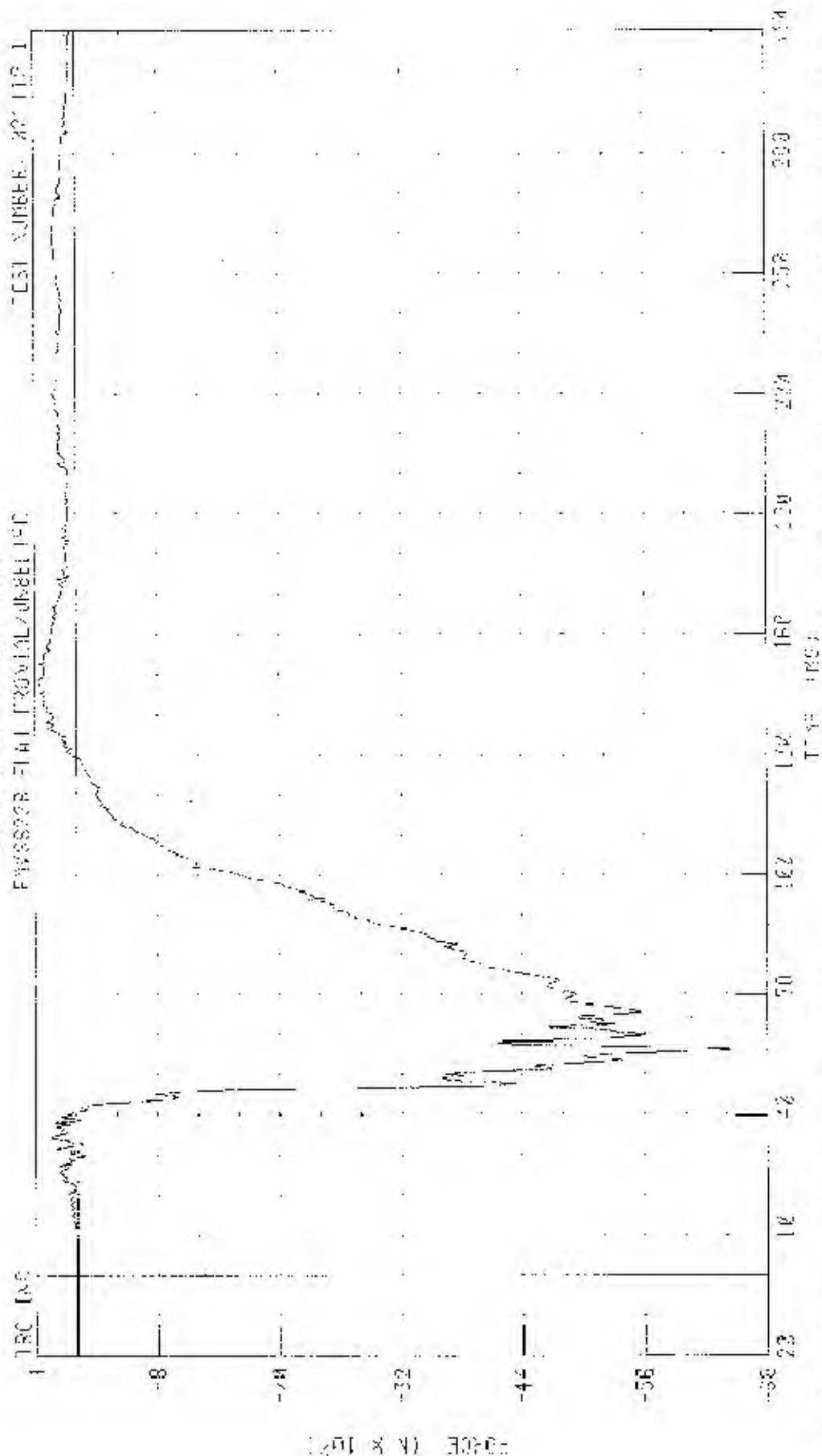
PF46 17A.0 0.54 111 60 24 15. 77 17 111 2 01.14 15

030102 - 2023 CH-2500 FT 91164000 1500 2WD PERMANENT DATA

DRIVER LEFT TIROR -0.000

PROCESSOR FILE: TIROR/L/UNBEL/10

TEST NUMBER: 201119-1



CHANNEL LF17=1 FILTER SP: CLASS 600

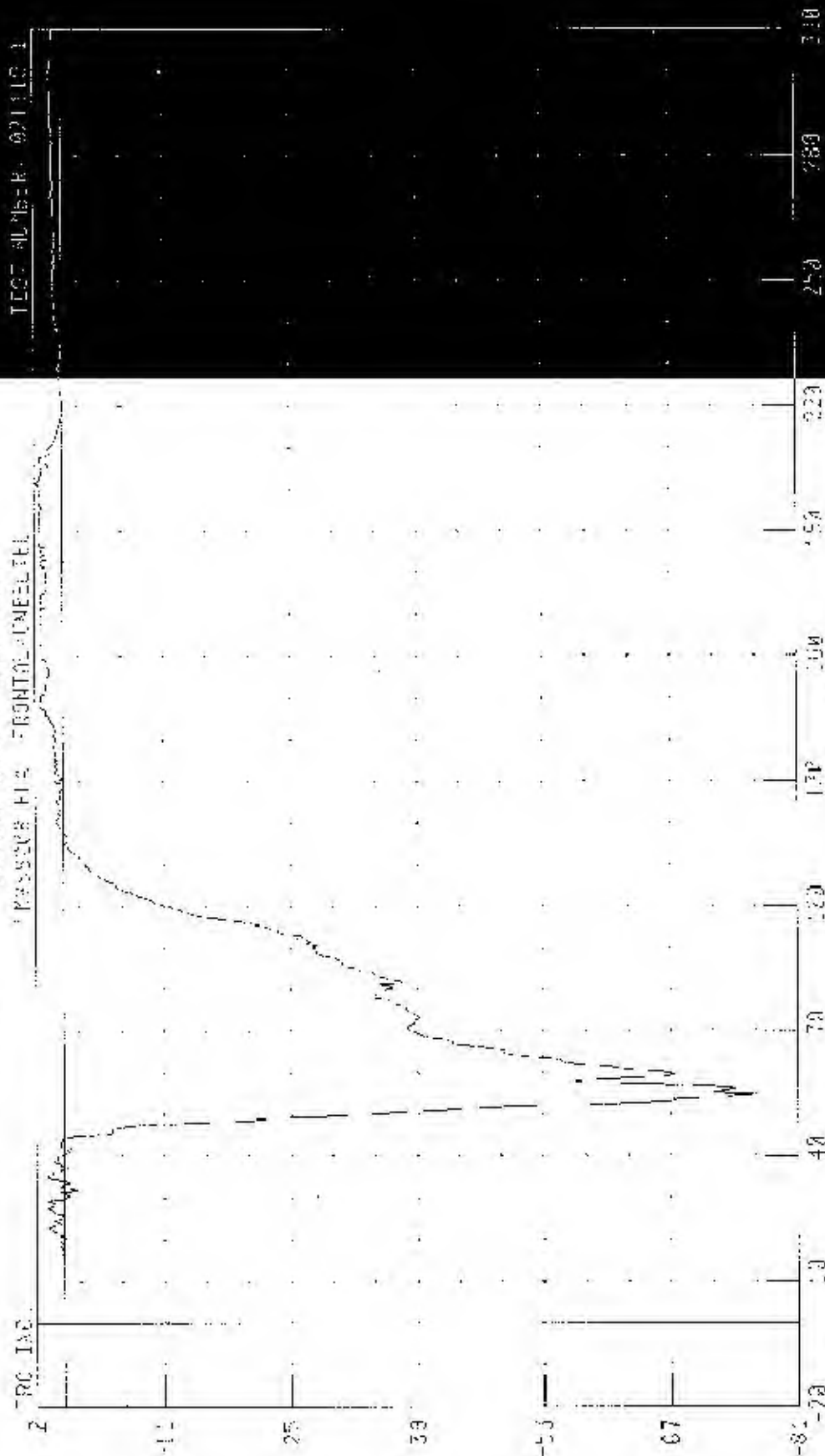
FLAK DATA 351 19 0 8 195 12 10, 0433 61 A 3 58 48 MS

C30102 / 2003 CHEVROLET SILVERADO 1500 4WD REGULAR 148

DRIVER RIGHT FENDER FORCE

CRASHTEST FIA FRONTAL-UNDERBELT

TEST NUMBER: 021119-1



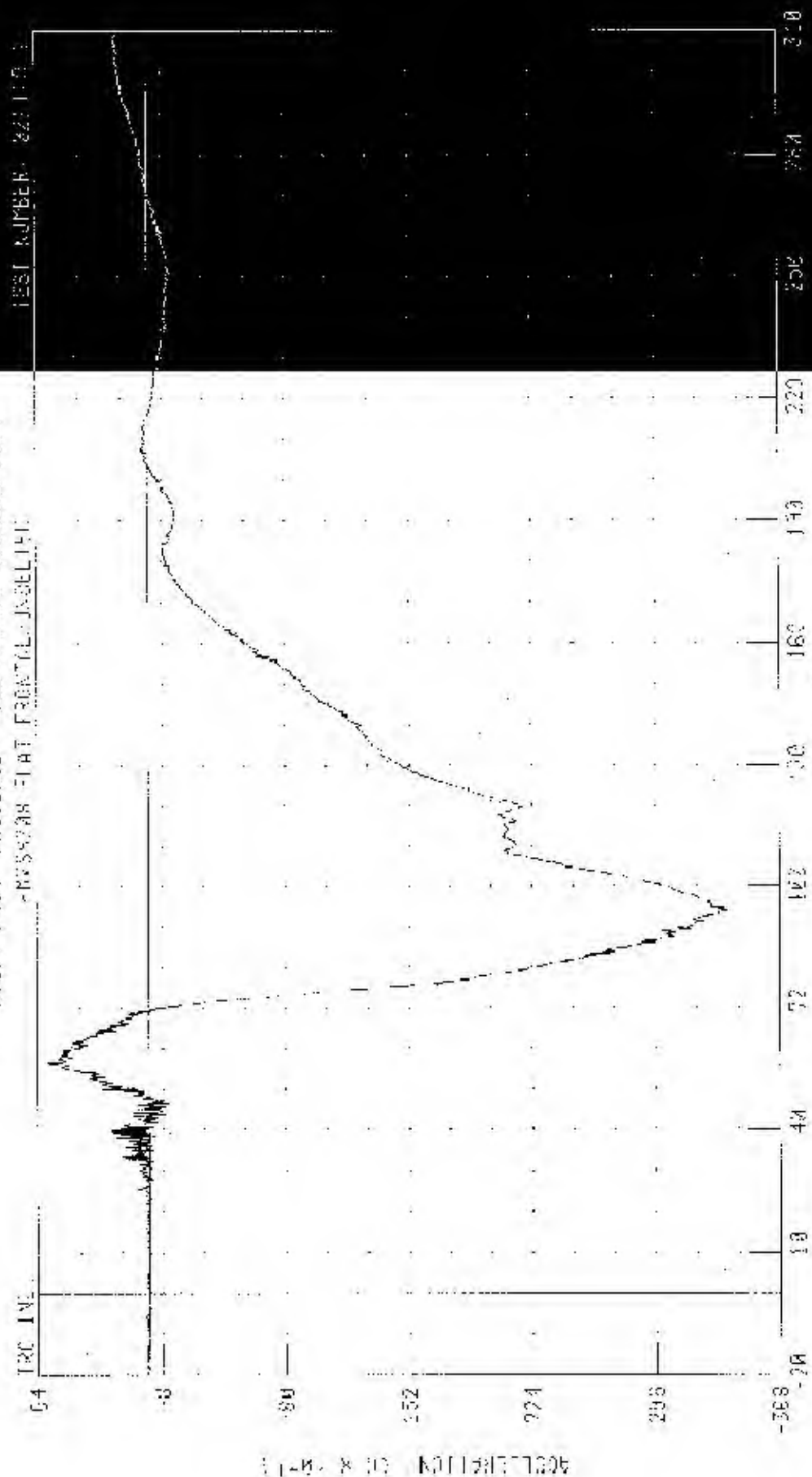
TIME (MS)

PEAK DATA: 270.52 kN @ 201.00 MS; -7513.24 N @ 35.17 MS

CANAL: 002F1 FILTER: 01.000000

-ORIG X 1021

C30142 / 2003 K-PV20 ET SILVERADO 15.40 AND REGULAR 34E  
 RIGHT FRONT PASSENGER / 4-00 X-60'S ACCELERATION  
 -RV559708 FLAT FRONTAL-IJABELPH



CHANNEL: CH1, CLEPS 2000

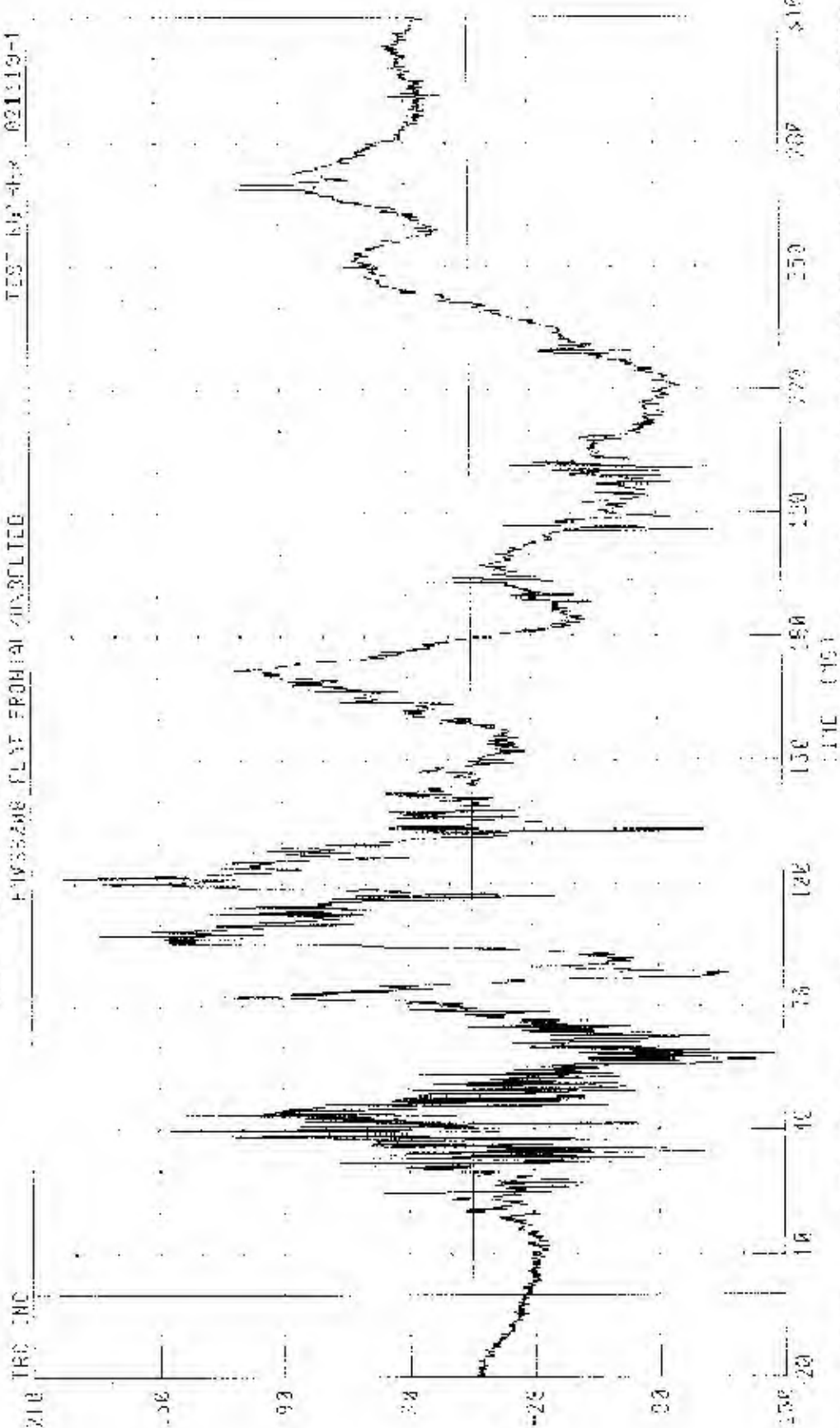
TIME: 5 58 0 0 10.00 MS. 33 57 5 8 91 24 10

030102 - 2000 CHEVROLET SILVERADO 1500 - WRECK INJURY ONE

RIGHT FRONT PASSENGER HEAD Y-AXIS ACCELERATION

FMVSS208 CLAY FRONTAL COLLISION

TEST NO: 448 021119-1

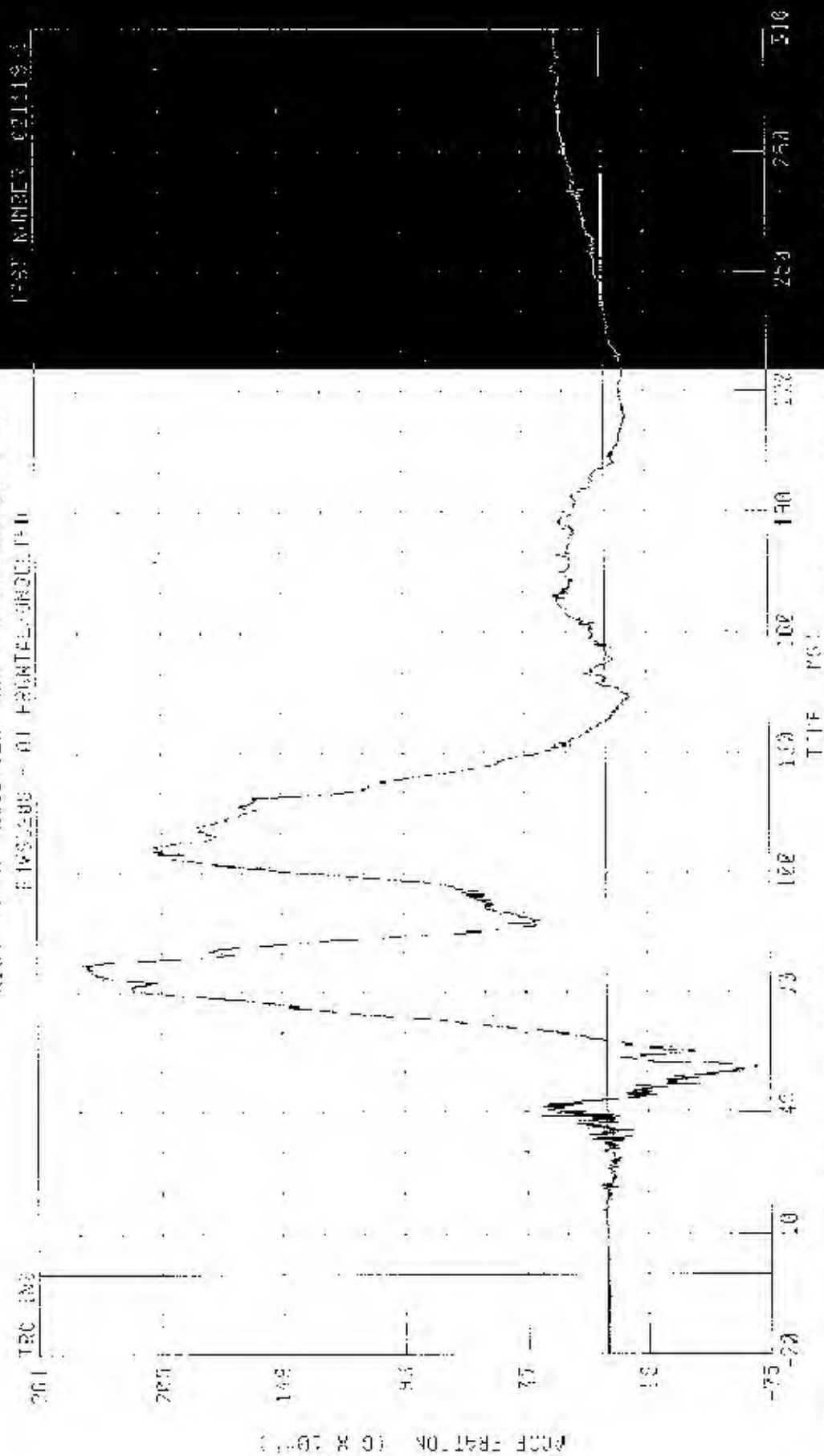


ACCT. (G) (X 12.2)

CHANNEL: FTY02 FILTER: CH 31 FREQ: 1020

TIME (SEC) 0 10 20 30 40 50 60 70 80

538128 / ALB. CLEVELAND - STAYED 1929. 2ND R=6.44R CUB  
RICHARD PHOTOCOPYER - FEB 7-08-55 - COLLECTION  
E 195285 - 01 PONTIAC CIRCULAR



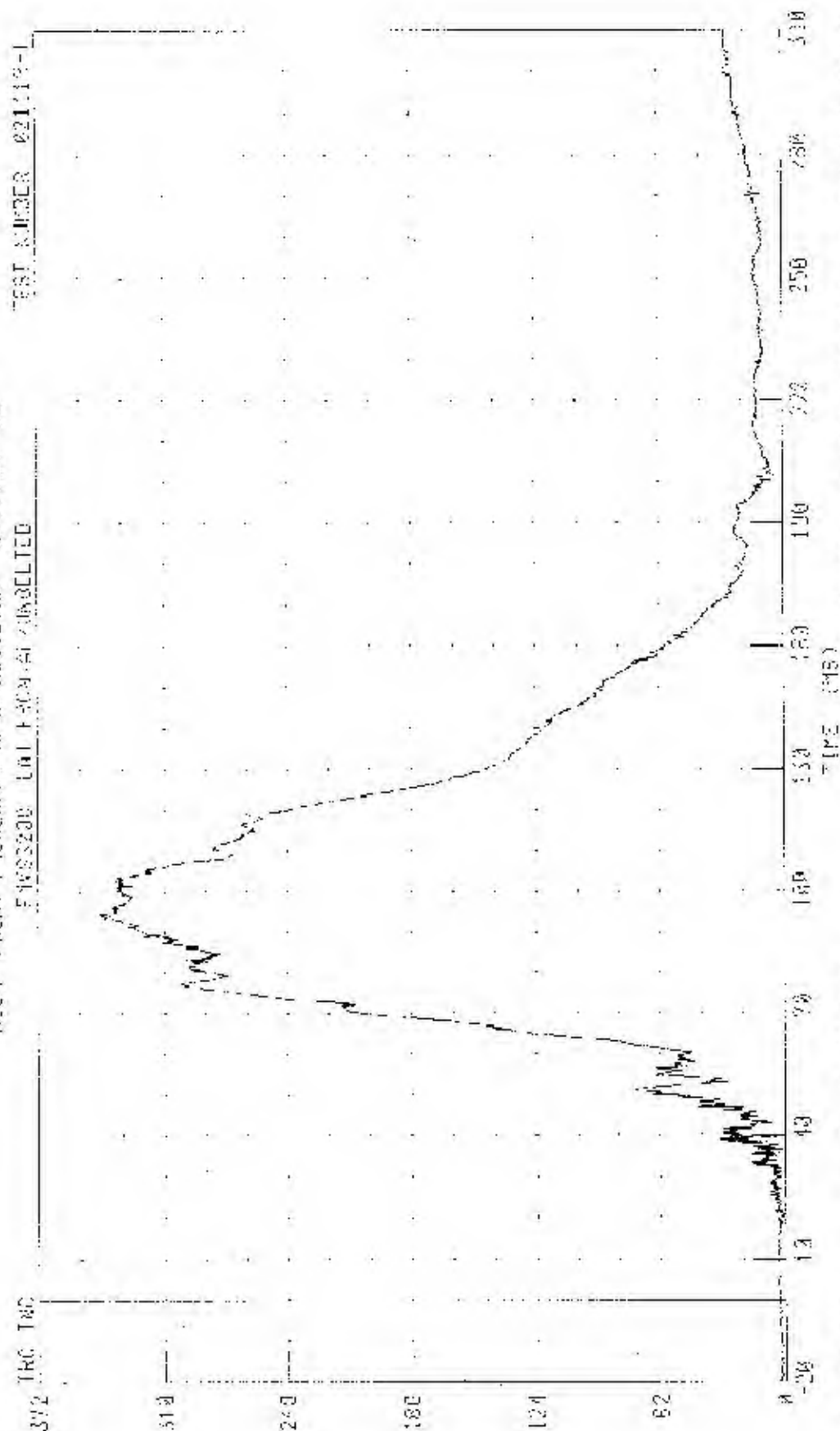
CHANNEL: LIVER F-VR DL. CLISS (FAC)

25

[illegible]



C30102 - 2003 CHEVY BLT SHIVER 2500 2WD RHD 4R CAB  
 HIG 1 - 120K FUSSENER HFH. RESOLUTION ACCELERATION  
 FV00200 Unit PCH 40 2000LTD

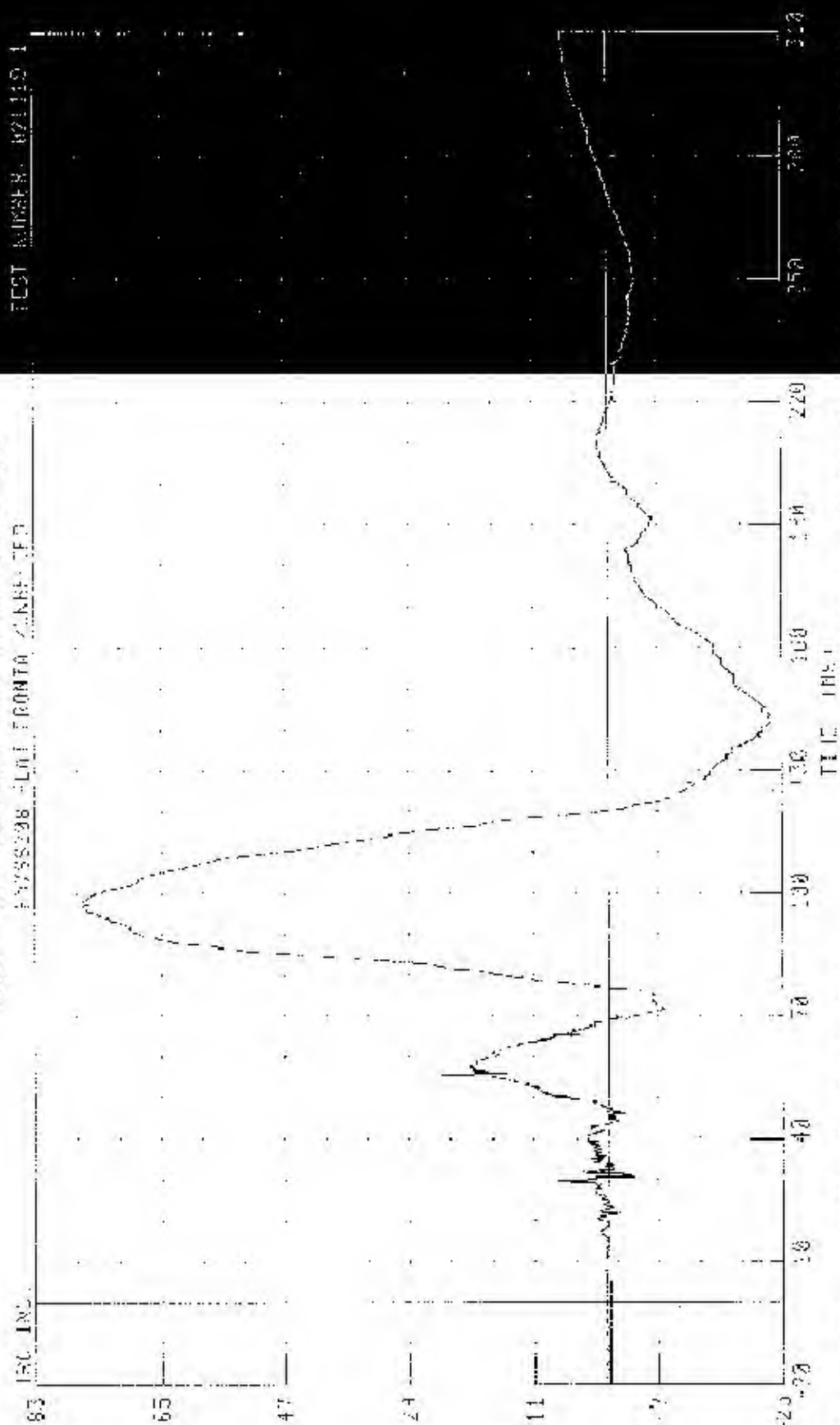


PIER DATA 34.26 G M 04 02 45.0 27 0 0 30 77 PS

CHANNEL HFTR02 FILTER CH. C\_LFSE 1000

ACCEL (G) 03 12 13

000100 / 2023 CHEVROLET SILVERADO 1500 2WD REGULAR CAB  
 RIGHT FRONT CROSS-ROTOR STICK & PISTON BEAR FORCE  
 15755238 -L01 FRONT CLAMPED



CHANNEL: NFK4F2 LTR: CH: C135 1670

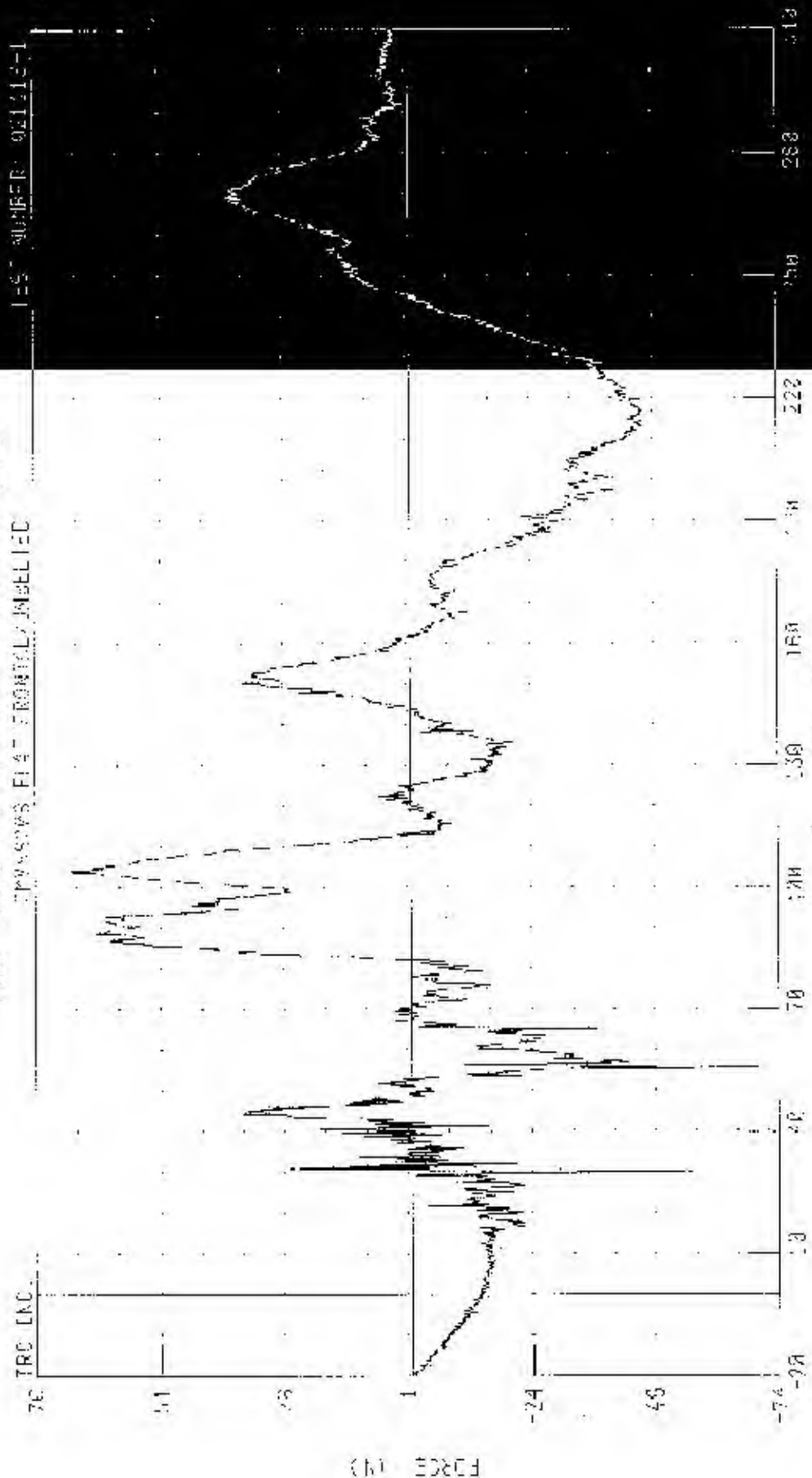
PEAK DATA: 703.00 N 0 97.03 MS, -200.70 N 0 147.10 MS

C30102 / 200X CHEMFEET 5 (W-40) 2000 ZWD REGULAR CNF

RIGHT FRONT ACES-USER NECK 2 X103 SH-5H FORCE

TPWASVS F147 FRONTLY UNBELLED

TEST NUMBER: 021119-1



CHANNEL VER-FO 11 DER CIL CLASS 1000

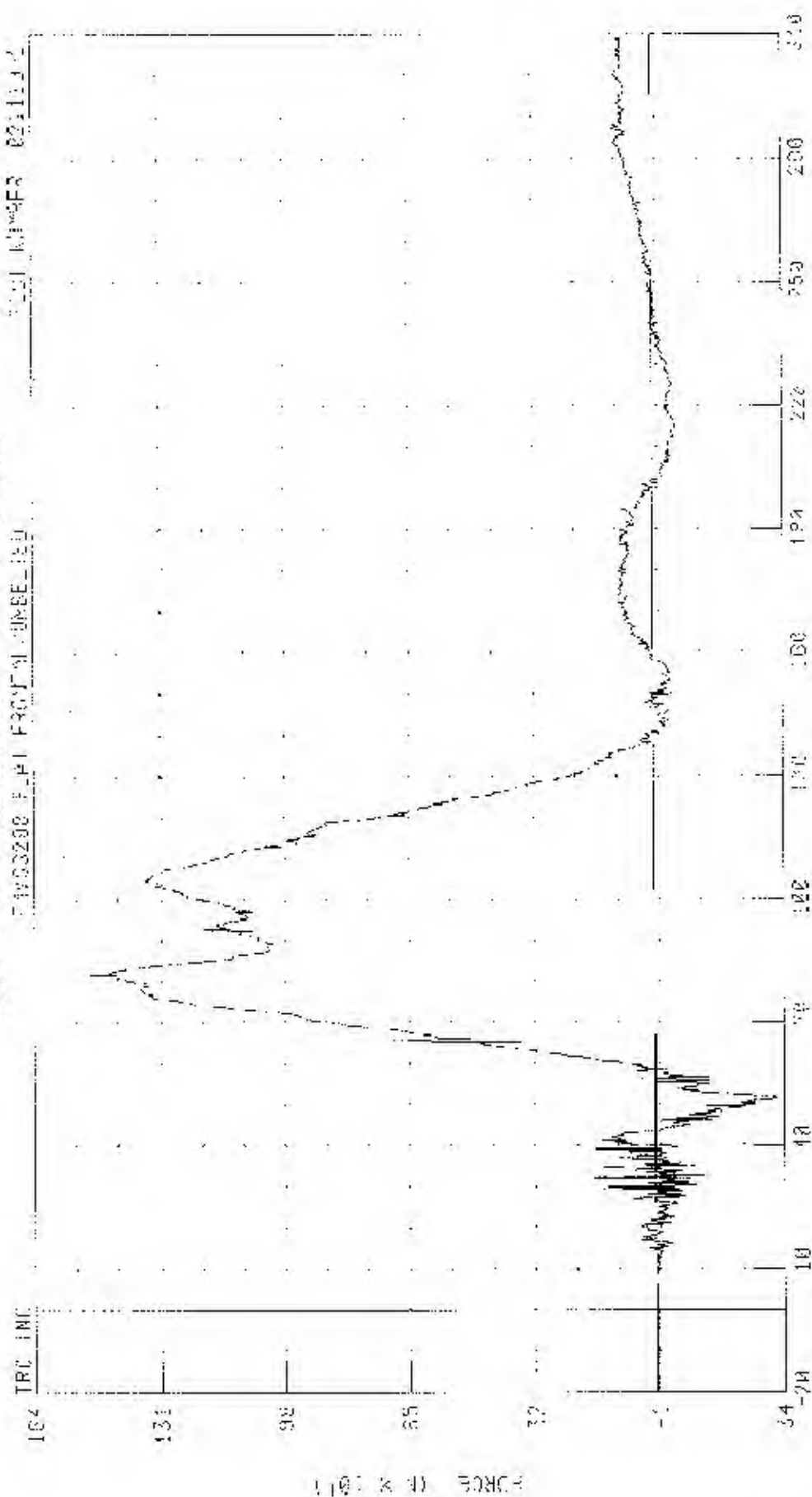
PEAK DATA 68.82 N X 134.15 MS -70.25 N X 35.32 N3

230147 / 2023 CRENSHAW ST. VEHICLE 1002 2ND REGULAR CAR

FIG 1 FRONT PASSENGER NECK /-XIS AXIAL FORCE

FMVSS200 F-PI FRONT CRUMPLE ZONE

TEST NUMBER 021119-1



TIME MS

PEAK DATA: 1100 20 N 0 81 7F MS. 312 92 X 2 5 10 00

CHANNEL: NL422 FILTER: CH CLASS 1202

030102 2 2003 INFRARED SILVERADO 1900 CAL. HEADLAMP TEST

RIGHT TEST POSN W/ P RECH THERM COOL' & 20.9

FW55200 THERM COOL' & 20.9

TEST NUMBER: 021119-1

TRC 180

24

INTEGRATED (A.T. X 10^-3)

10

40

60

80

20

40

72

100

130

160

190

220

250

280

310

WAVELENGTH (UM)

CHANNEL K-K802 FILTER CH. 0.655 400

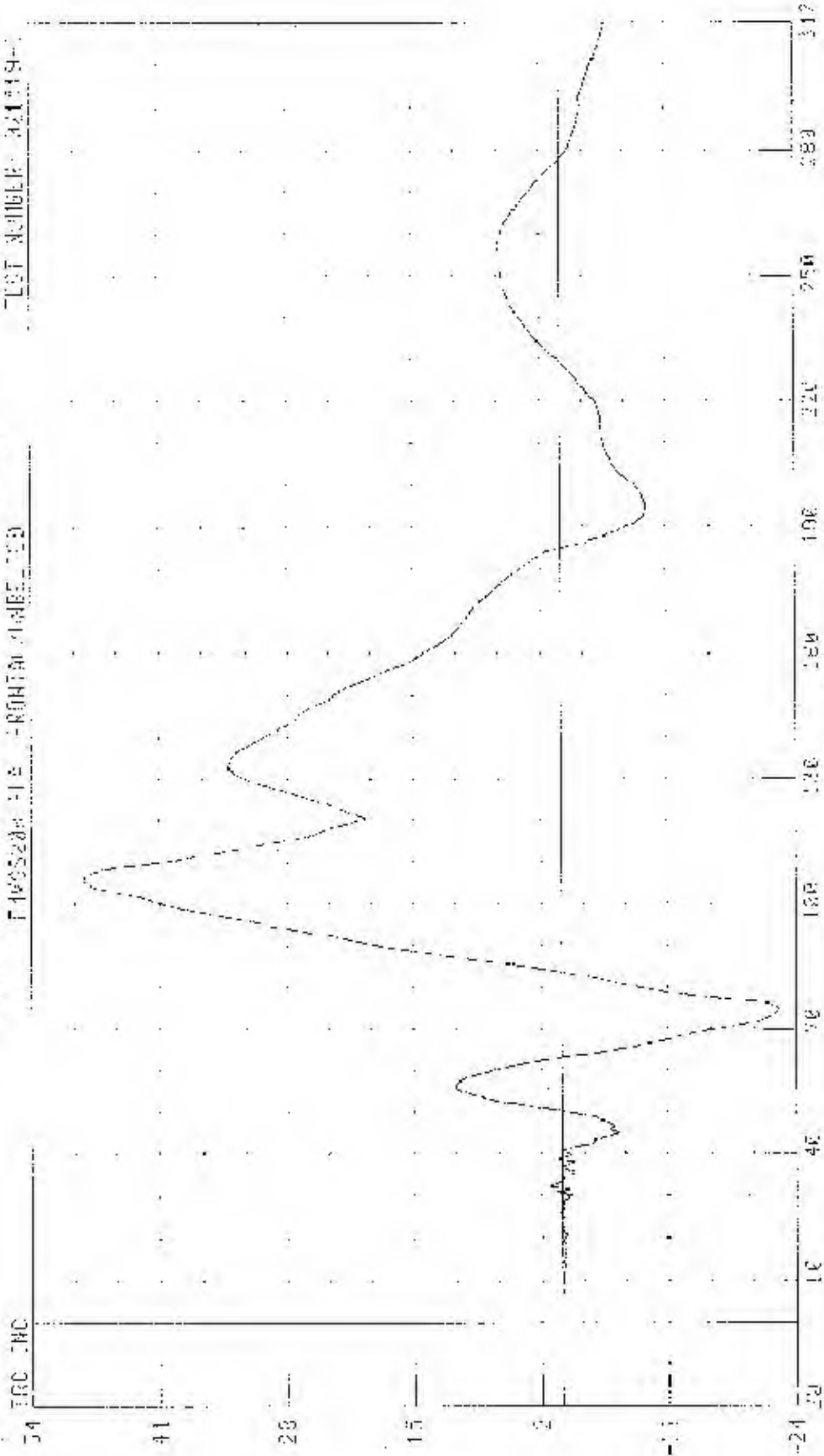
WAVELENGTH (UM) 310 280 250 220 190 160 130 100

030102 2 20051HFV30 ET SILVERADO 1500 AND REGULAR CAD

RIGHT FRONT PASSENGER NECA OUTLET PRESSURE EX.B

F1405200012 FRONTAL CRASH TEST

TEST NUMBER 021119-1



110001

CHARGE 040712 FILTER 04 01400 000

TIME 1751

PEAR 04.4 48.76 K 10'05 14 K3 -22 33 K 0 05 04 00

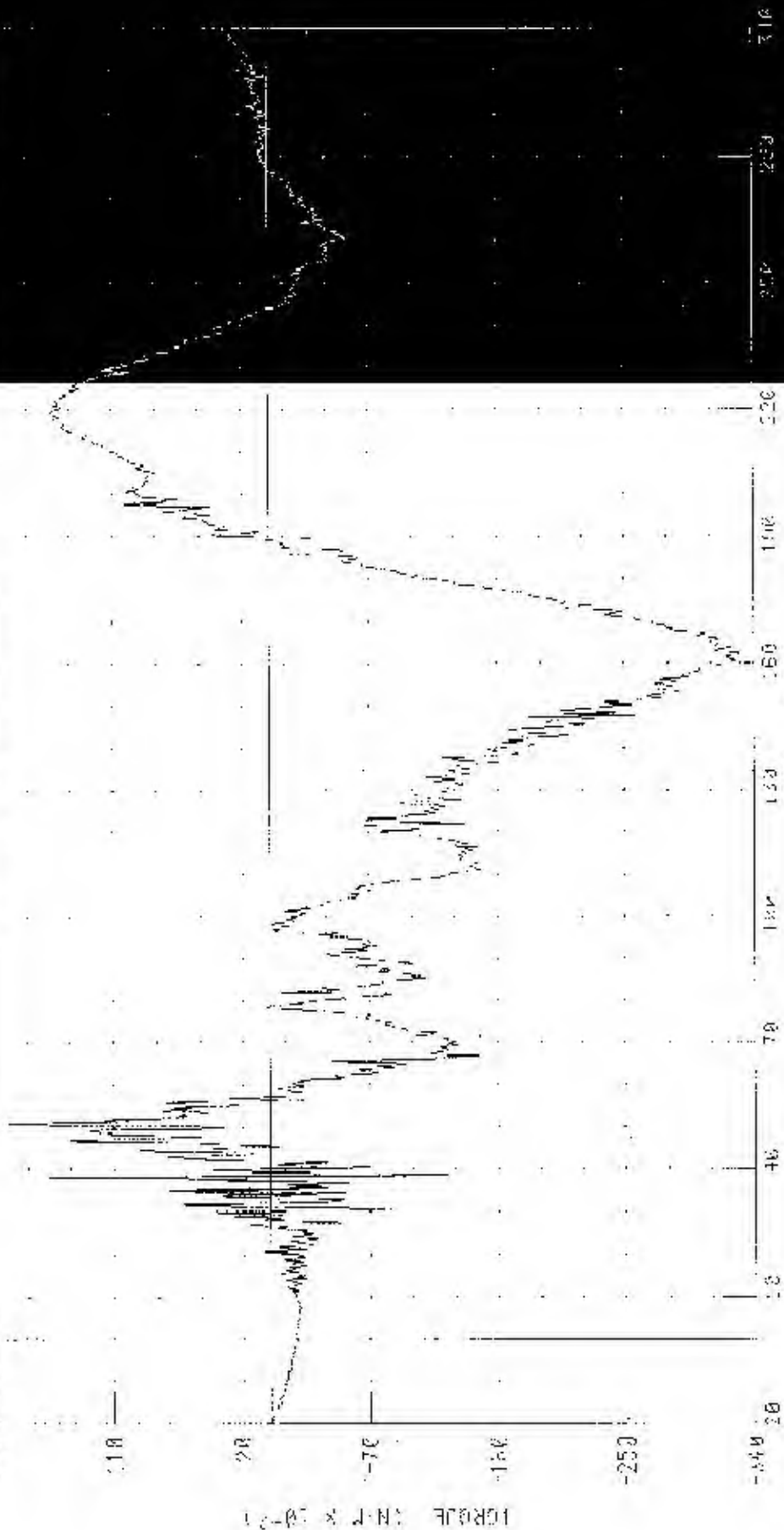
C08142 - 2003 C. DARCLET SILVERADO 1984 AND REGULAR ONE

RICH FRONT PHOSPHORUS VERY HIGHLY ABUNDANT 2 AXIS

PHOSPHORUS F. OF FRONTAL/UNDERLASH

200 TRC INC

101 1000000 2221001



C08142 - 2003 C. DARCLET SILVERADO 1984 AND REGULAR ONE

PHOSPHORUS F. OF FRONTAL/UNDERLASH

101 1000000 2221001

200 TRC INC

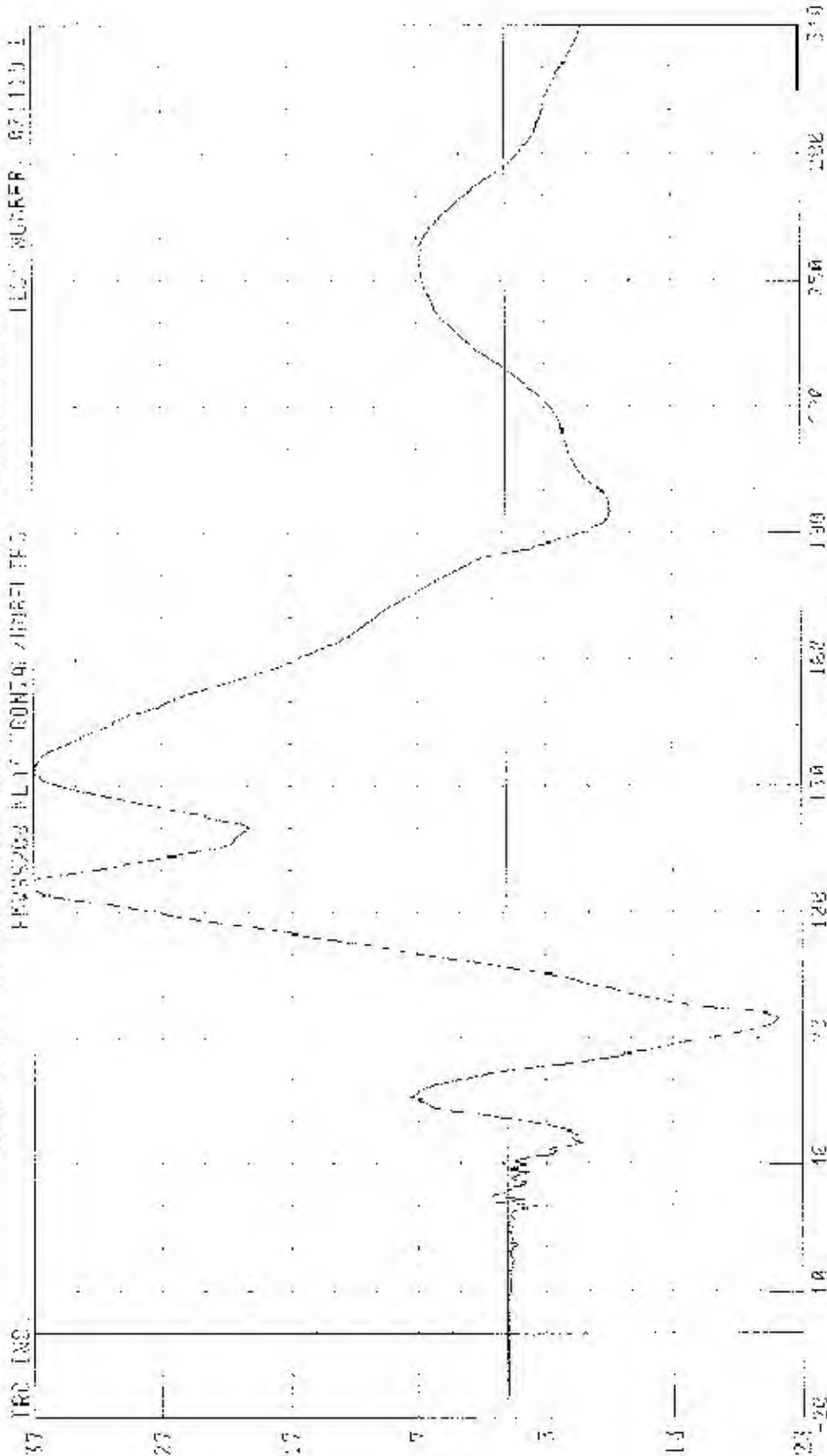
101 1000000 2221001



C30102 / 2003 CHEVROLET SILVERADO 1500 24 REGULAR CAB

RIGHT FRONT PASSENGER NECK BOWTIE AIRBAG (R) AIRBAG ADULT Y AXIS

PC355203 BLT CONTOUR ZIPPET FFS 1500 WUKRFR 021119-1



CHANNEL: K00Y02 FILTER: CH. C-003 040

PEAK DATA 37.58 N 0.000 40.00 21.18 N 0.000 40.00

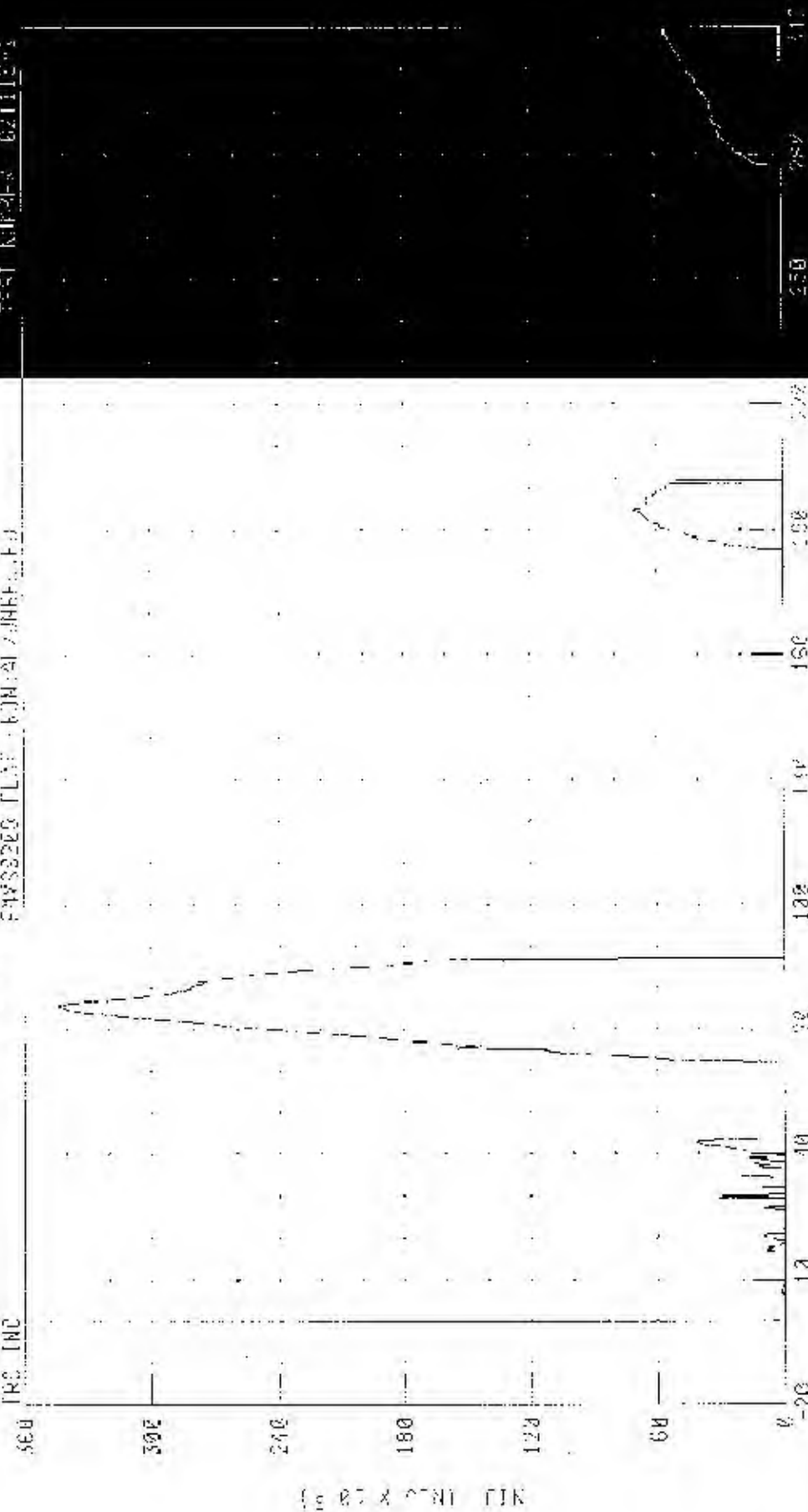
030100 / 2003 CHEVROLET SILVERADO 1500 2WD REGULAR CAB

FRONT PASSENGER AIR BAG DETECTOR EXTENSION

FMVSS225 FLAME RETARDANT MATERIALS

TEST NUMBER 021119-1

IRG INC



WAVELENGTH (micrometers)

040404 / 2003 CHEVROLET SILVERADO 1500 2WD REGULAR CAB

FRONT PASSENGER AIR BAG DETECTOR EXTENSION

FMVSS225 FLAME RETARDANT MATERIALS

IRG INC

TEST NUMBER 021119-1

030100 / 2003 CHEVROLET SILVERADO 1500 2WD REGULAR CAB

FRONT PASSENGER AIR BAG DETECTOR EXTENSION

FMVSS225 FLAME RETARDANT MATERIALS

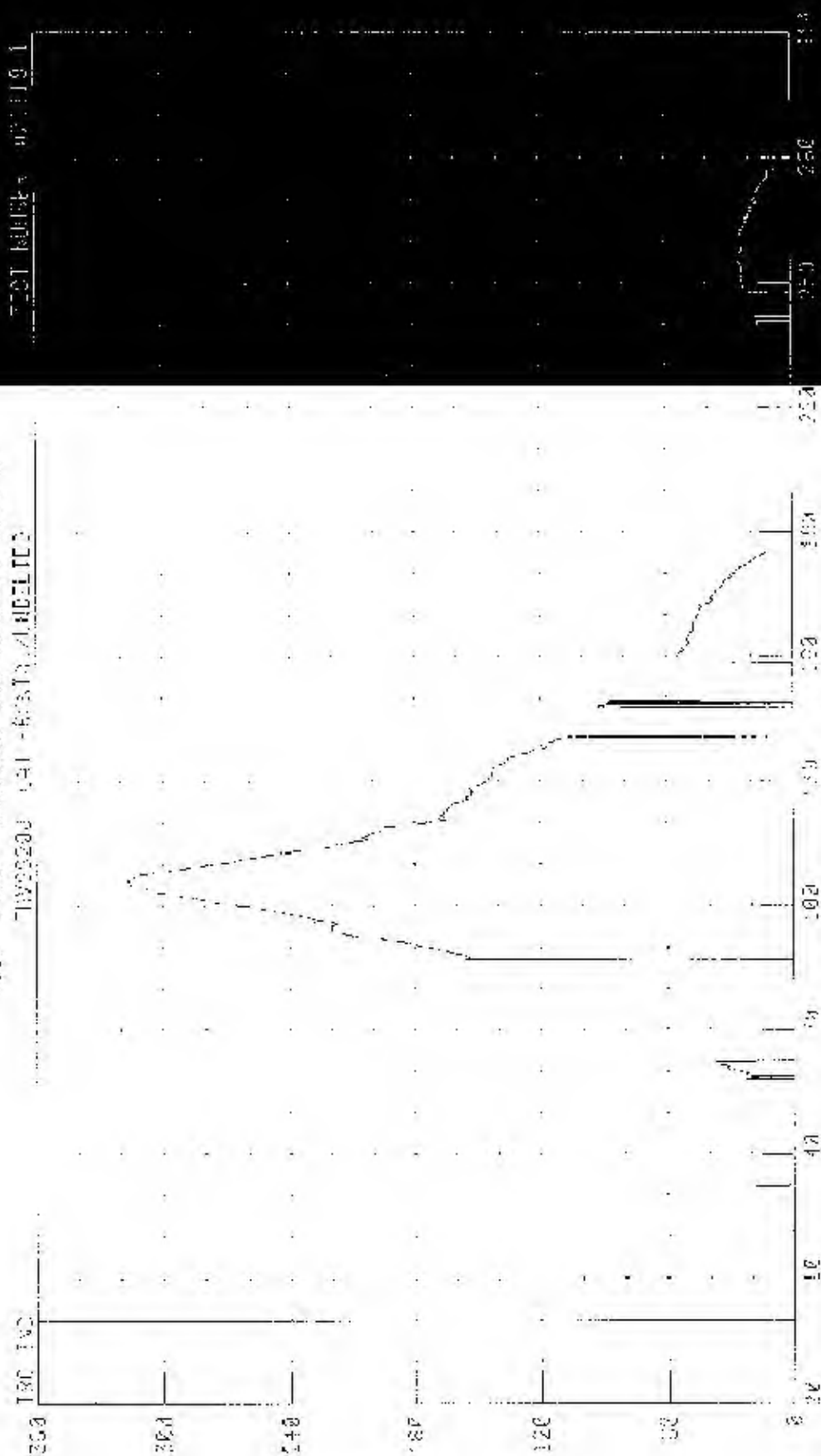
TEST NUMBER 021119-1

IRG INC

0350-1975 • 2005 CLEVELAND SPRINGFIELD 15W 20C FULLY SYN

Fig. 1.  $\chi$  vs.  $\phi$  for the  $\text{CH}_3\text{CN} + \text{CH}_3\text{COF}_3$  and  $\text{CH}_3\text{CN} + \text{CH}_3\text{COCl}$  systems.

1955-1956



1141 139

CHANNEL NO. 2  
 11155-11157-11159-11161-11163-11165-11167-11169-11171-11173-11175-11177-11179-11181-11183-11185-11187-11189-11191-11193-11195-11197-11199-11201-11203-11205-11207-11209-11211-11213-11215-11217-11219-11221-11223-11225-11227-11229-11231-11233-11235-11237-11239-11241-11243-11245-11247-11249-11251-11253-11255-11257-11259-11261-11263-11265-11267-11269-11271-11273-11275-11277-11279-11281-11283-11285-11287-11289-11291-11293-11295-11297-11299-11301-11303-11305-11307-11309-11311-11313-11315-11317-11319-11321-11323-11325-11327-11329-11331-11333-11335-11337-11339-11341-11343-11345-11347-11349-11351-11353-11355-11357-11359-11361-11363-11365-11367-11369-11371-11373-11375-11377-11379-11381-11383-11385-11387-11389-11391-11393-11395-11397-11399-11401-11403-11405-11407-11409-11411-11413-11415-11417-11419-11421-11423-11425-11427-11429-11431-11433-11435-11437-11439-11441-11443-11445-11447-11449-11451-11453-11455-11457-11459-11461-11463-11465-11467-11469-11471-11473-11475-11477-11479-11481-11483-11485-11487-11489-11491-11493-11495-11497-11499-11501-11503-11505-11507-11509-11511-11513-11515-11517-11519-11521-11523-11525-11527-11529-11531-11533-11535-11537-11539-11541-11543-11545-11547-11549-11551-11553-11555-11557-11559-11561-11563-11565-11567-11569-11571-11573-11575-11577-11579-11581-11583-11585-11587-11589-11591-11593-11595-11597-11599-11601-11603-11605-11607-11609-11611-11613-11615-11617-11619-11621-11623-11625-11627-11629-11631-11633-11635-11637-11639-11641-11643-11645-11647-11649-11651-11653-11655-11657-11659-11661-11663-11665-11667-11669-11671-11673-11675-11677-11679-11681-11683-11685-11687-11689-11691-11693-11695-11697-11699-11701-11703-11705-11707-11709-11711-11713-11715-11717-11719-11721-11723-11725-11727-11729-11731-11733-11735-11737-11739-11741-11743-11745-11747-11749-11751-11753-11755-11757-11759-11761-11763-11765-11767-11769-11771-11773-11775-11777-11779-11781-11783-11785-11787-11789-11791-11793-11795-11797-11799-11801-11803-11805-11807-11809-11811-11813-11815-11817-11819-11821-11823-11825-11827-11829-11831-11833-11835-11837-11839-11841-11843-11845-11847-11849-11851-11853-11855-11857-11859-11861-11863-11865-11867-11869-11871-11873-11875-11877-11879-11881-11883-11885-11887-11889-11891-11893-11895-11897-11899-11901-11903-11905-11907-11909-11911-11913-11915-11917-11919-11921-11923-11925-11927-11929-11931-11933-11935-11937-11939-11941-11943-11945-11947-11949-11951-11953-11955-11957-11959-11961-11963-11965-11967-11969-11971-11973-11975-11977-11979-11981-11983-11985-11987-11989-11991-11993-11995-11997-11999-12001-12003-12005-12007-12009-12011-12013-12015-12017-12019-12021-12023-12025-12027-12029-12031-12033-12035-12037-12039-12041-12043-12045-12047-12049-12051-12053-12055-12057-12059-12061-12063-12065-12067-12069-12071-12073-12075-12077-12079-12081-12083-12085-12087-12089-12091-12093-12095-12097-12099-12101-12103-12105-12107-12109-12111-12113-12115-12117-12119-12121-12123-12125-12127-12129-12131-12133-12135-12137-12139-12141-12143-12145-12147-12149-12151-12153-12155-12157-12159-12161-12163-12165-12167-12169-12171-12173-12175-12177-12179-12181-12183-12185-12187-12189-12191-12193-12195-12197-12199-12201-12203-12205-12207-12209-12211-12213-12215-12217-12219-12221-12223-12225-12227-12229-12231-12233-12235-12237-12239-12241-12243-12245-12247-12249-12251-12253-12255-12257-12259-12261-12263-12265-12267-12269-12271-12273-12275-12277-12279-12281-12283-12285-12287-12289-12291-12293-12295-12297-12299-12301-12303-12305-12307-12309-12311-12313-12315-12317-12319-12321-12323-12325-12327-12329-12331-12333-12335-12337-12339-12341-12343-12345-12347-12349-12351-12353-12355-12357-12359-12361-12363-12365-12367-12369-12371-12373-12375-12377-12379-12381-12383-12385-12387-12389-12391-12393-12395-12397-12399-12401-12403-12405-12407-12409-12411-12413-12415-12417-12419-12421-12423-12425-12427-12429-12431-12433-12435-12437-12439-12441-12443-12445-12447-12449-12451-12453-12455-12457-12459-12461-12463-12465-12467-12469-12471-12473-12475-12477-12479-12481-12483-12485-12487-12489-12491-12493-12495-12497-12499-12501-12503-12505-12507-12509-12511-12513-12515-

PLANK DURING 6 JULY & 12, 1957: 0000 H. 00.00 F.



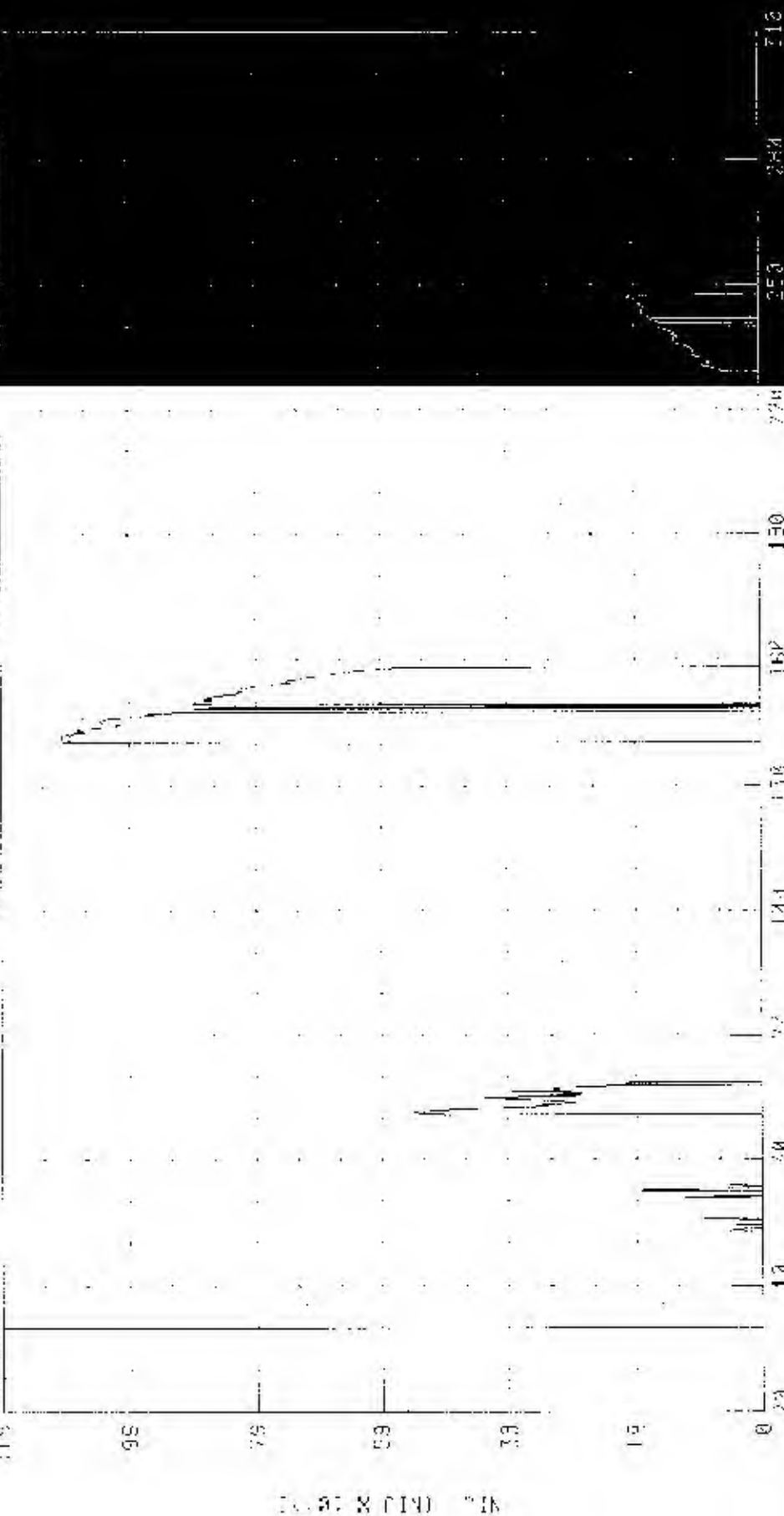
C30100 2 0003 CHEVRON SILVERADO 1500 2WD REGD PR CAR

RCH1 -RCH1 PASSENGER SEAT COMPRESSION/RELAXATION

TRUCKS V8 FLOT -CONTROL-CHUBB, LTD

TRC INC

TRC NUMBER 021119-1



CHANNEL 0012 FILTER C 01085 600

TIME 100

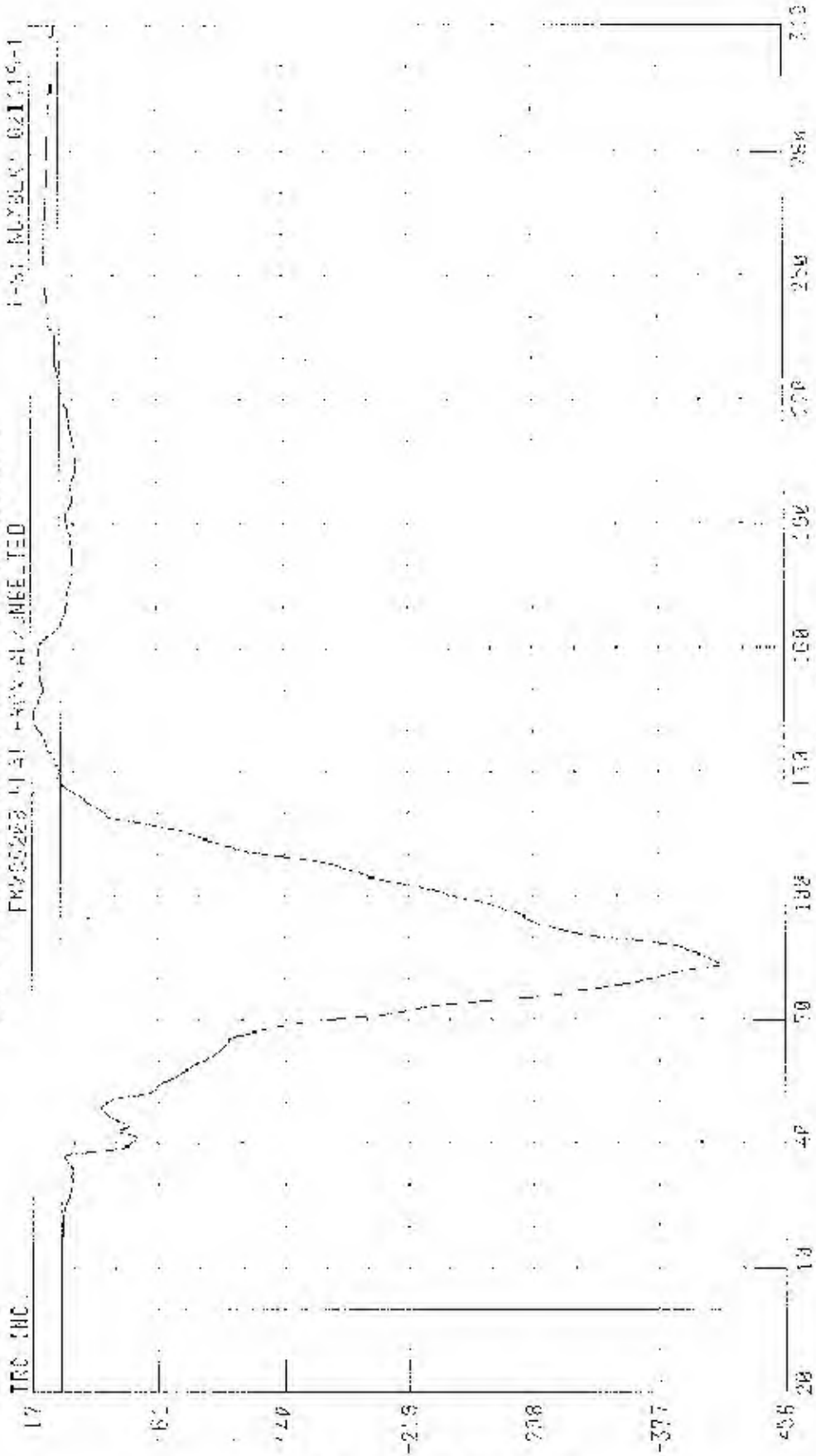
PEAK DATA 0 1 11. 0 140.50 FS. 0.00 0.00 0.00 0.00

1/30/02 / 2003 CHEVROLET SILVERADO 1500 2WD REGULAR CAB

RIGHT FRONT PASSENGER SEAT X-AXIS ACCELERATION

PRV052923.MAT -NON-IMPULSED

1-51 MLY3L40 021119-1



PEAK TIME: 08.53 143.03 151.41 270.00 300.00

0-40 MPH - CRASH / 11-11-00 CLASS 190



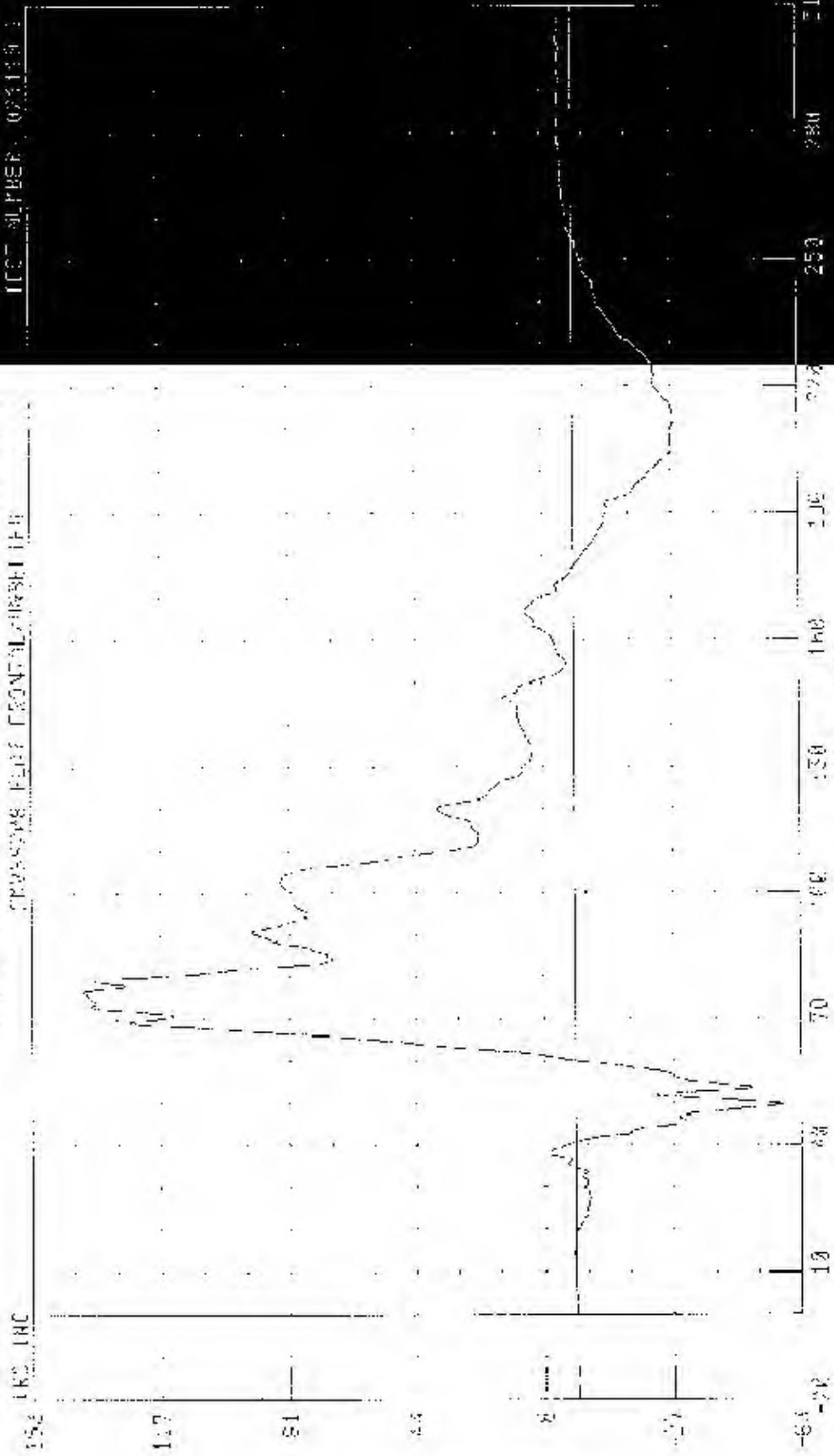


030127 / 2003 CHEVROLET SILVERADO 2500 2ND R-1001R CAB

PICUP FRONT PASSENGER CHEST A-AXIS ACCELERATION

CRASHTEST FILE CONTROL/INVEST 1PH

TEST NUMBER: 003119-1



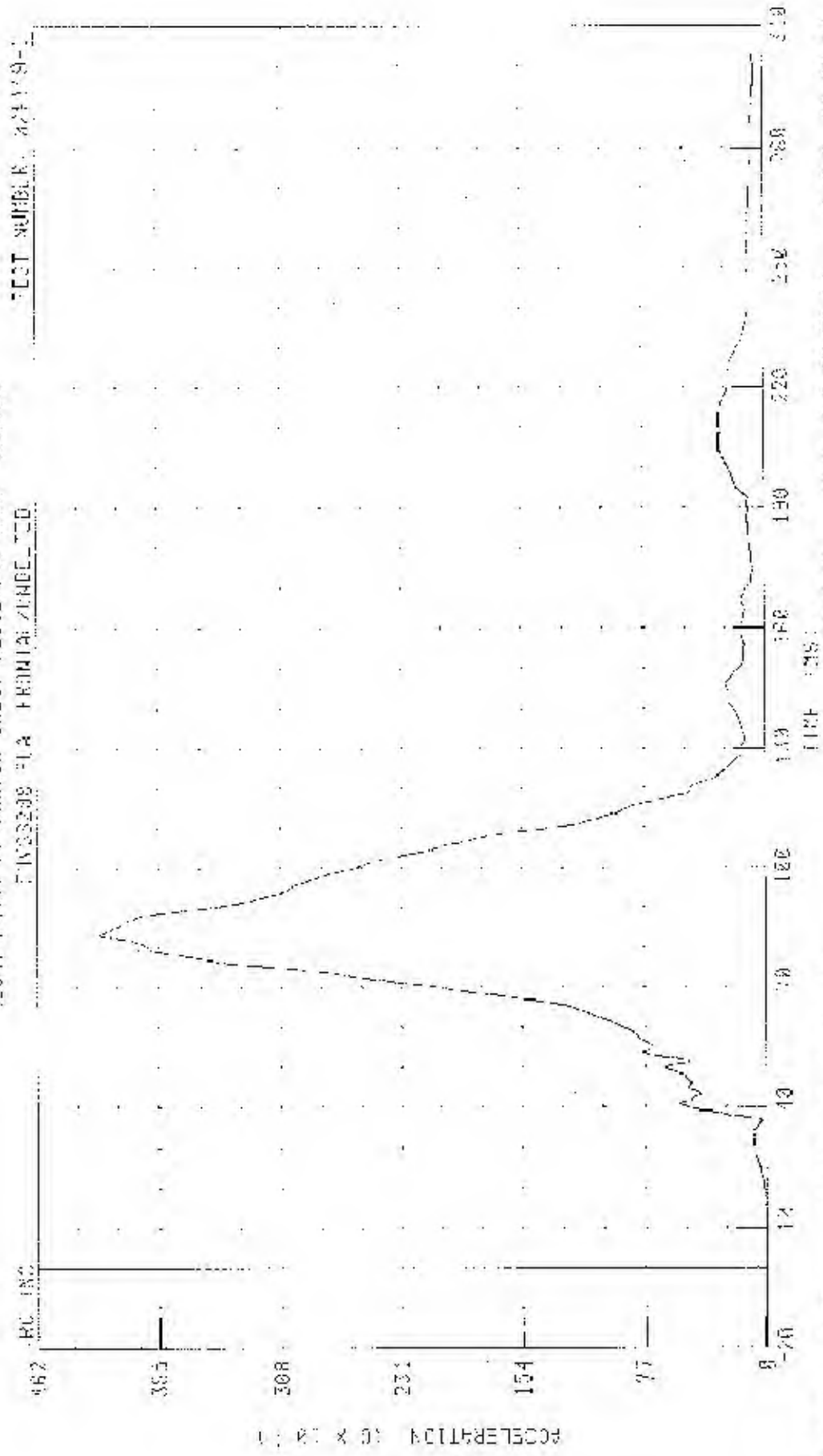
ACCELERATION (G X 10^-2)

CHANNEL: 031202 FT PLK CH. CLASS 18P

TIME (SEC)

PEAK DATA: 13.89 3.0 70.84 18.1 -2.195 6.0 49.75 19

030122 / 0013 DEFRD FT SILVERADO 1000 AND REGULAR 37B  
 RIGHT FRONT PASSENGER CHEST RESULTANT INFLA - RATION

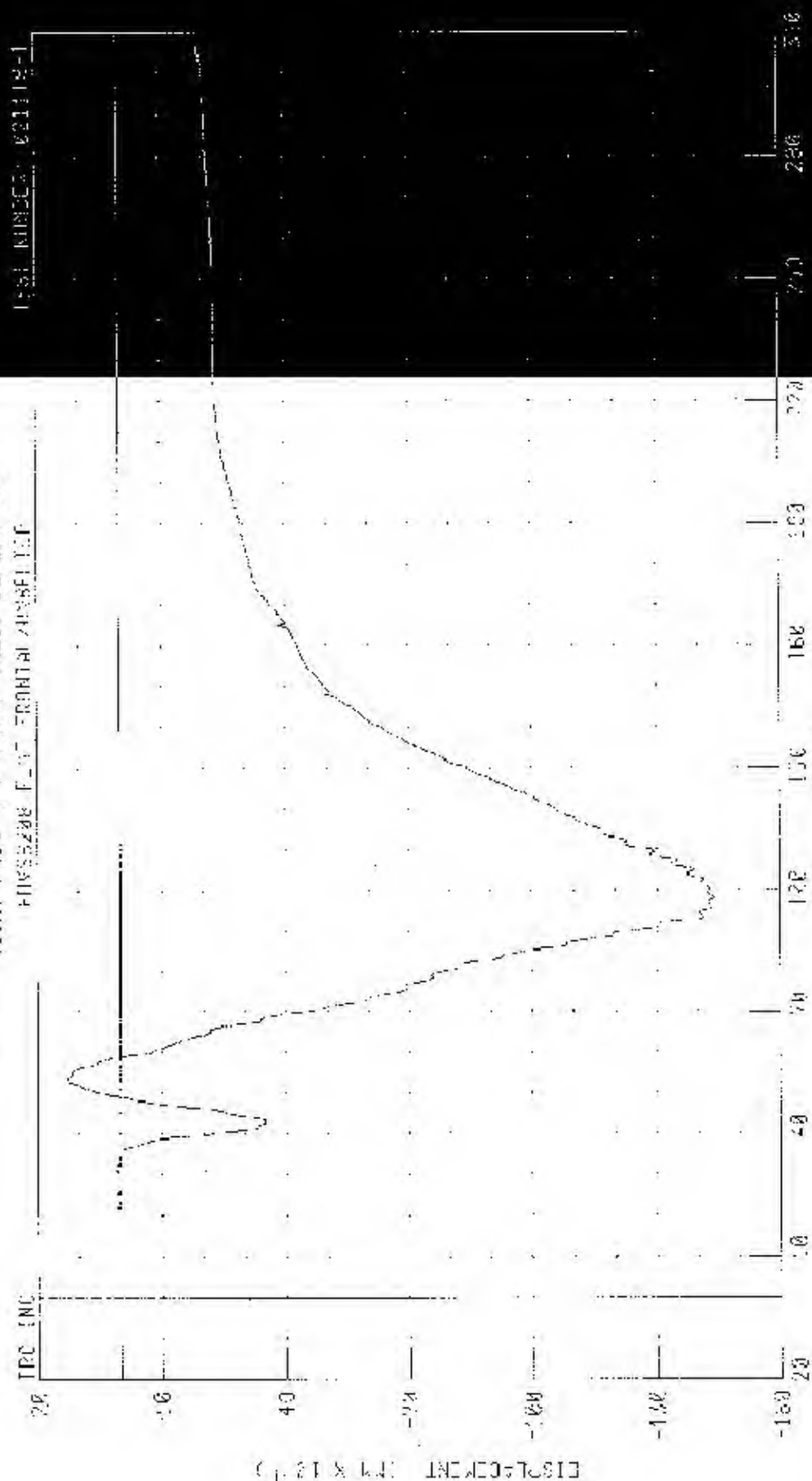


CHANNEL: 030122 FILTER: CH. CLASS: 000 P=0.0014 H=42.21 S=0.93 F=18.461 0.0 20.00 18

030102 / 0003 CHEVROLET SILVERADO 1990 2ND REGULAR CAB

RIGHT FRONT POWERWIPER CHECK DEFLECTION

PMV55208 FLOW FRONTAL AMPLIFIER



E13740CMENT (71 X 12)

CHANNEL - 03102 FILTER - 07 CLASS - 030

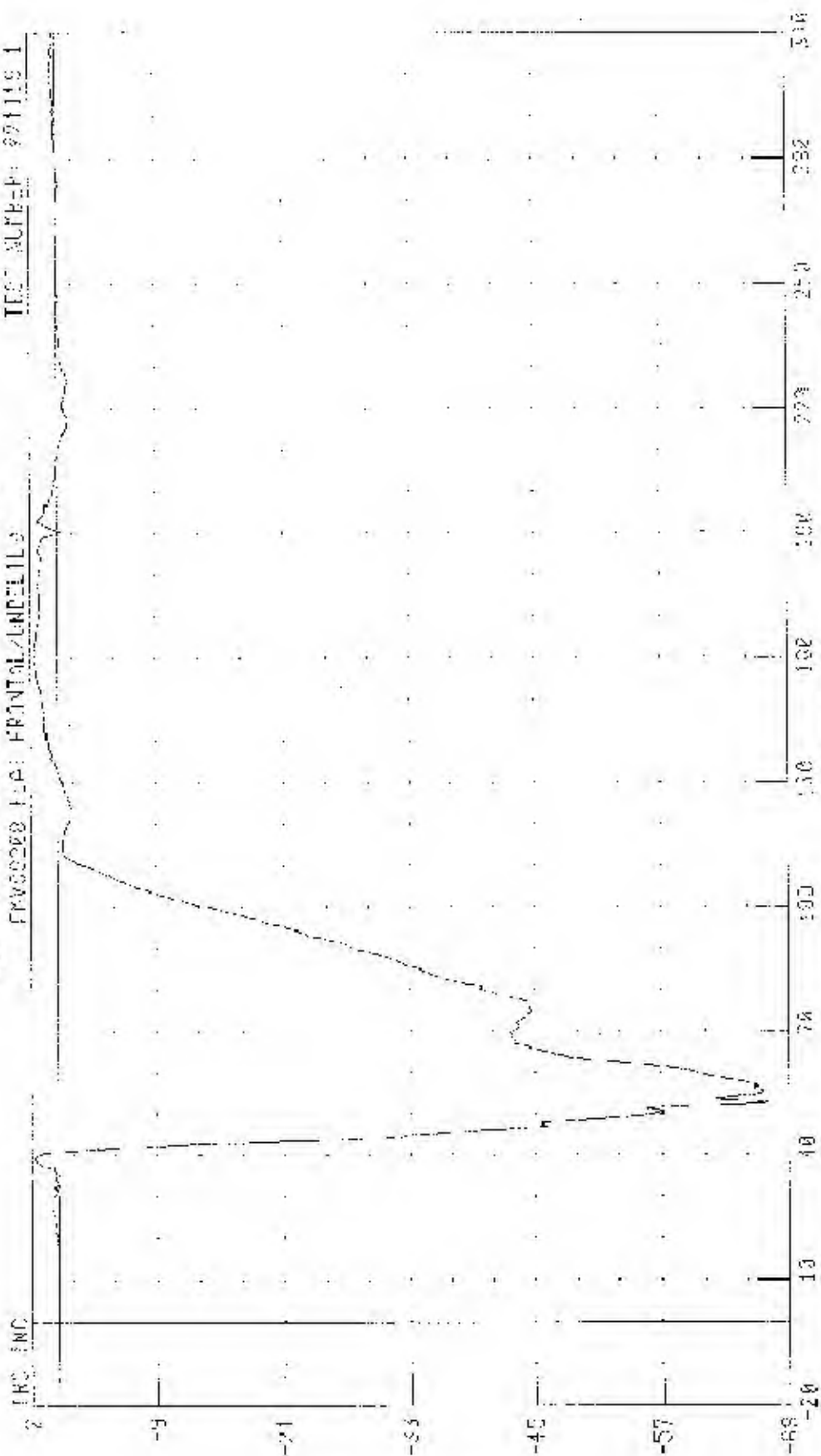
021119-1

C381127 : 2003 CHEVROLET SILVERADO 1500 2WD REGULAR CAB

RICH FRONT PASSENGER LE- FFR FR FORCE

FRV00200 FPA: FRONTAL/UNDRLILB

TEST NUMBER: 021119-1

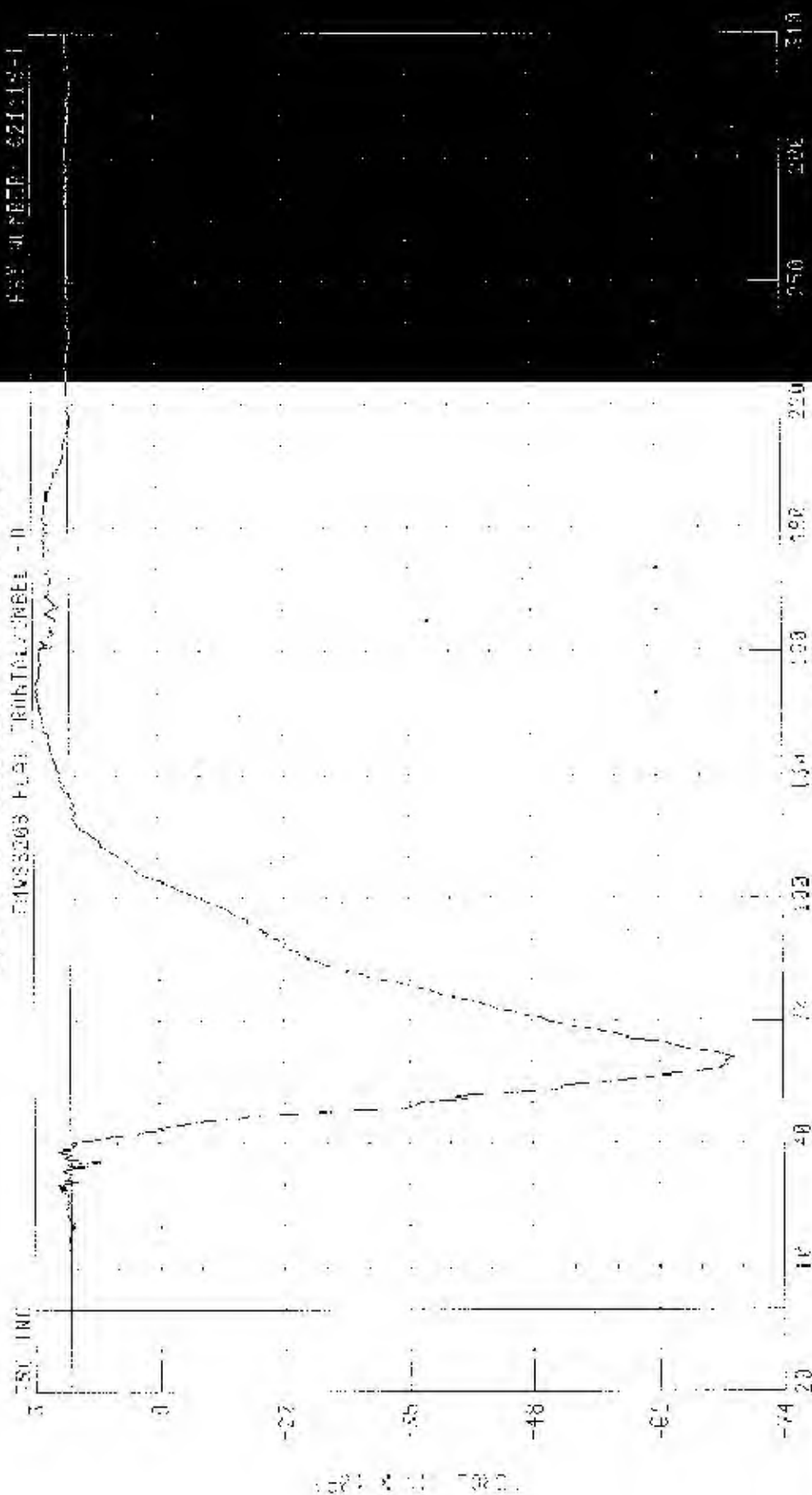


CHANNEL: 1/NTF2 FILTER: CR, CLASS: 600

PEAK DATA: 210 50 N 0 39 36 39, -0770.20 N 0 32 30 73

0207 X N: 0000

LEWIS & CLARK



CHICKENFLY · REFUGES · 117

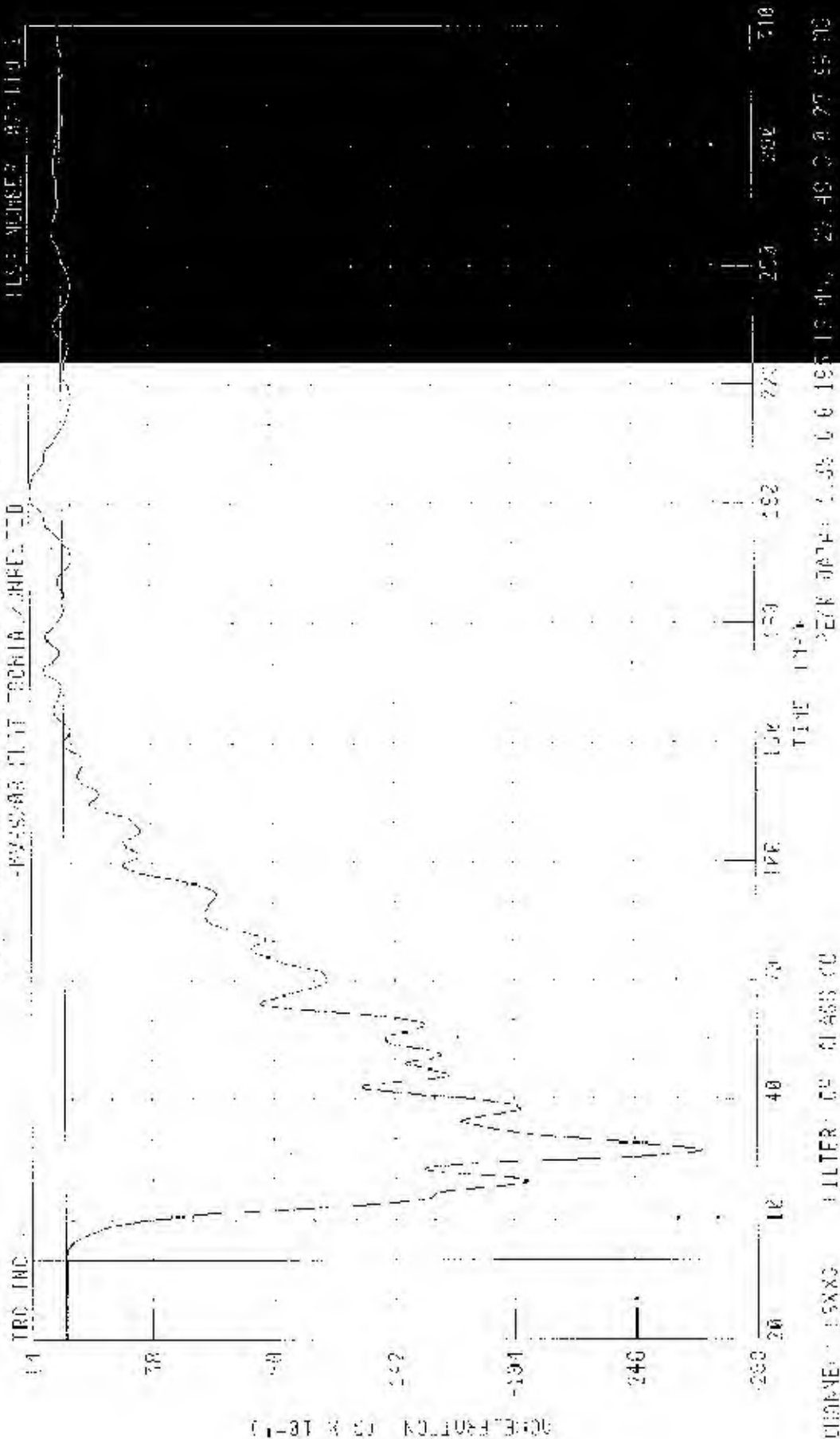
[illegible]

030102 / 7043 DRYVOL-ET SILVERADO 1503 2ND REGULAR CAP

LEFT REAR 3-01 TRANSFORMER 3-0123 RECOILATION

-WASSAR FLIT TECHIA / JHEF-70

PLS: MURPHY 87-119-1



CHROMA - 158X2 FILTER - 05 01403 00

25.49 0.8 27.55 0.0

030102 / 2003 CHEVROLET / 6 / 073400 1500 2ND REAR AXLE

LEFT REAR SHOCK ABSORBER Y-AXIS ACCELERATION

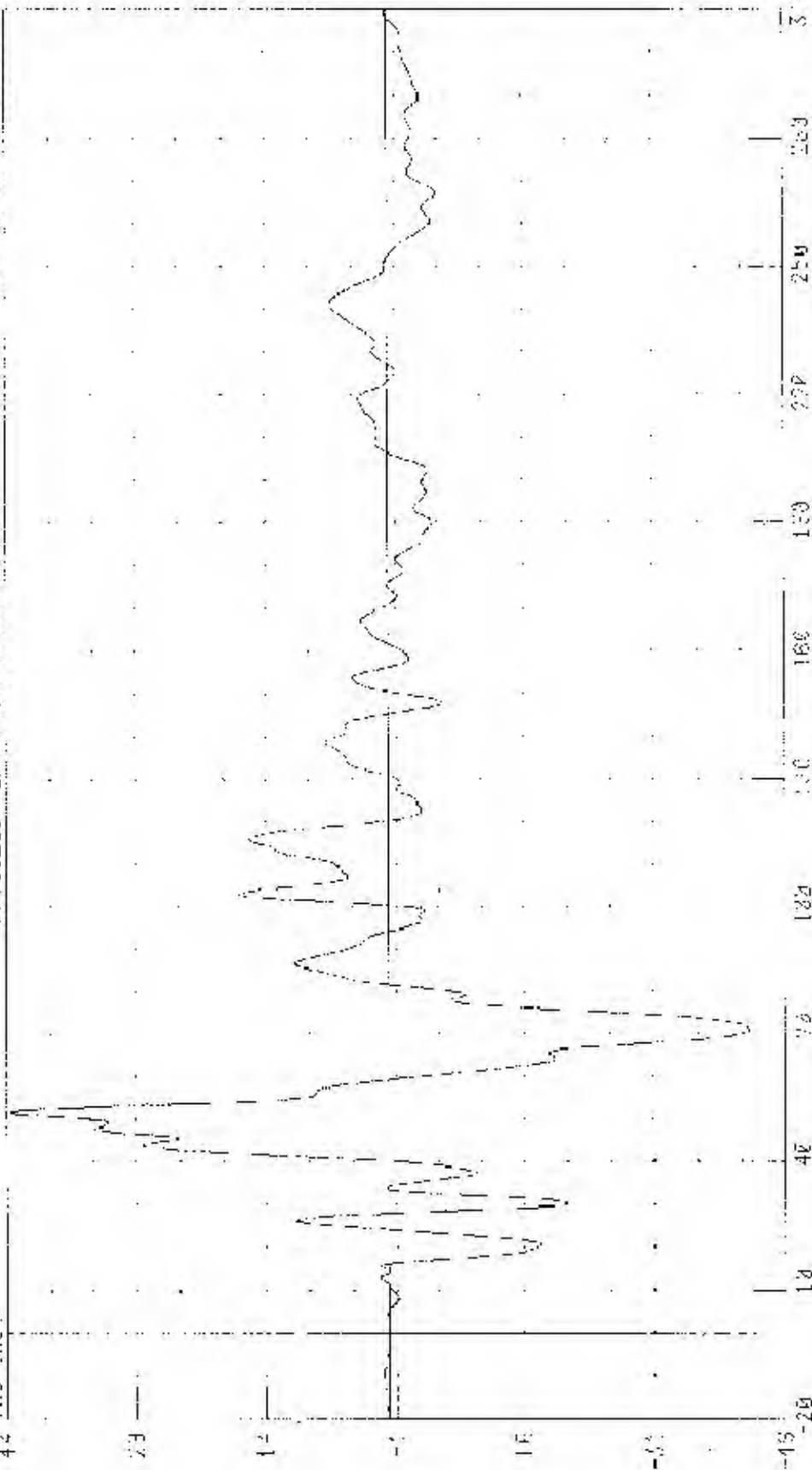
TRUCK INC. TRUCKS2003 F-150 FRONT / REAR

TRUCKS2003 F-150

42 TRUCK INC.

23

ACCELERATION (G x 10<sup>-2</sup>)



CHANNEL 150000

1.1119 0.000000

SPARK DATA: 4.37 0.0 51.53 45.1 -4.70 0.0 70.80 10.0





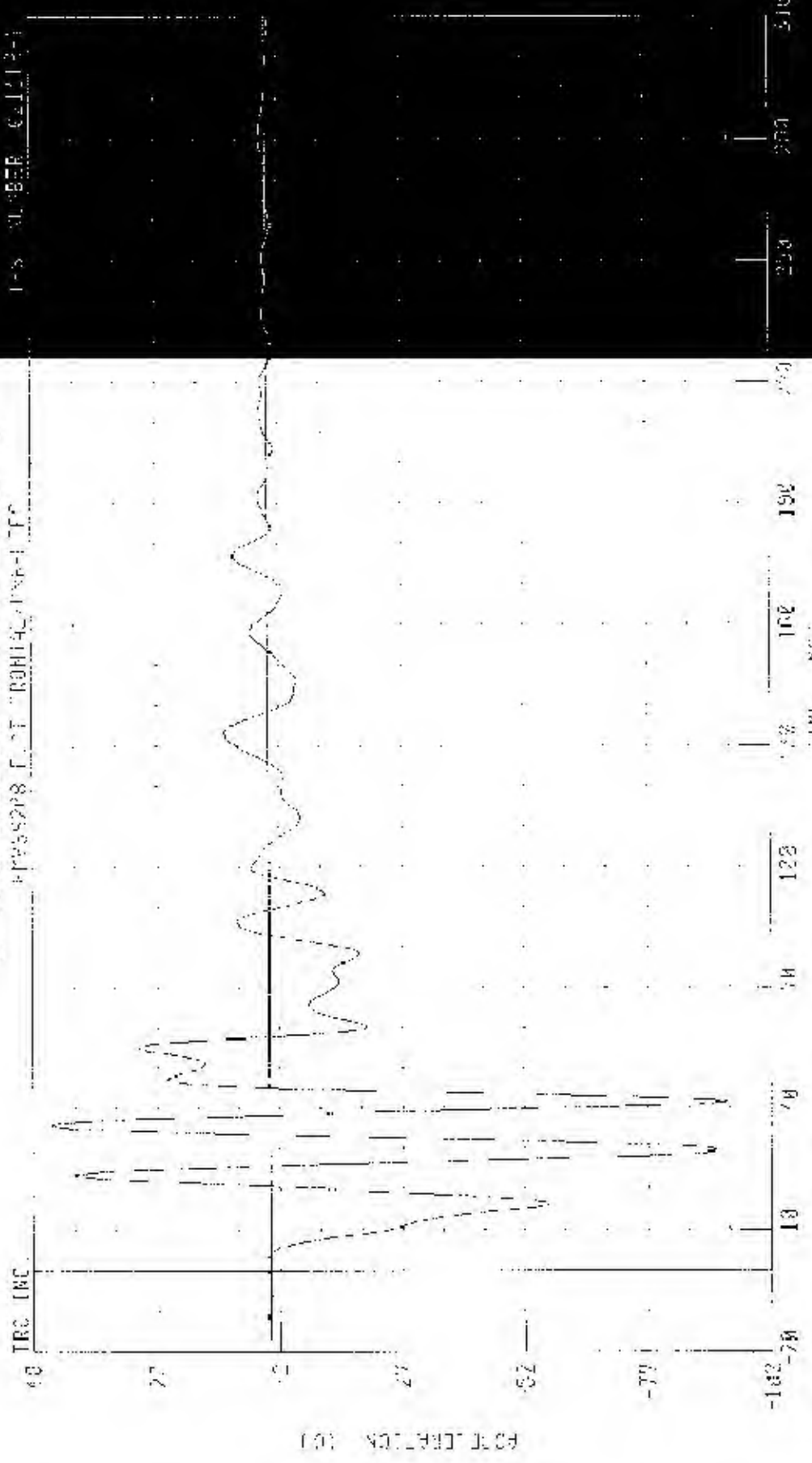


USM102 2203 747HSA 31LVER00 100 780 800L43 005

\*\*\* FRONT 300KX COLLIPER X-AXIS COLLIDER \*\*\*

4755208 0.17 700140/100-170

1-5 01.858 021119-1

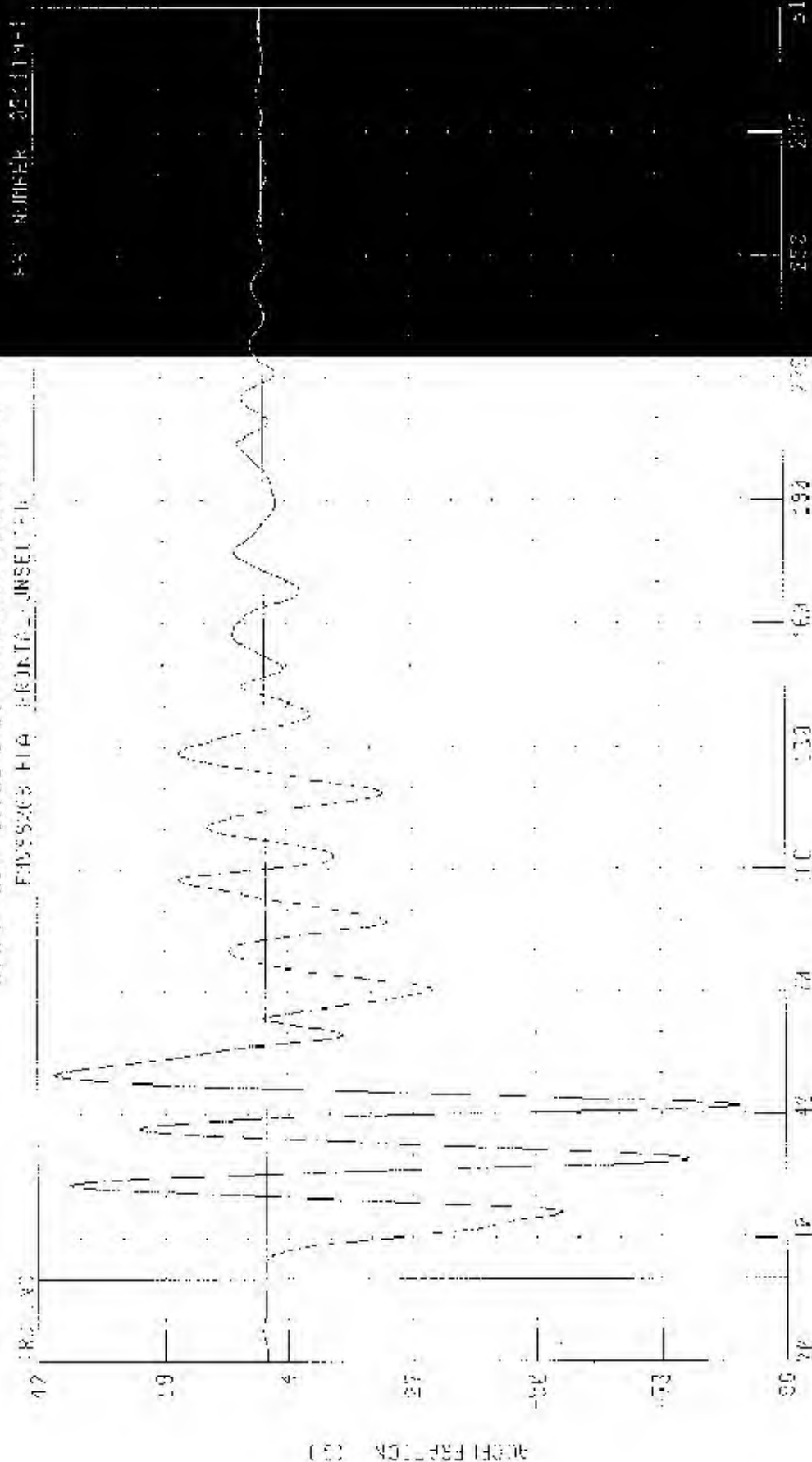


CHANNEL 7043 FILTER 04 01.858 02  
 PEAK DATA 43 21 6 9 30 10 P3 -92 98 3 9 41 03 05

030102 / 2K2 CH-VEHICLE SILENCE 1500 200 RECI-PE-105  
 RIGHT FRONT BRACE COLLAPSE W-H-100 400000000000

TEST NUMBER 021119-1

PROCESSED BY PROTO-INSECT



CHANNEL: REOSC 411119-100 200 400 600 800 1000 1200 1400 1600 1800 2000 2200 2400 2600 2800 3000 3200 3400 3600 3800 4000 4200 4400 4600 4800 5000 5200 5400 5600 5800 6000 6200 6400 6600 6800 7000 7200 7400 7600 7800 8000 8200 8400 8600 8800 9000 9200 9400 9600 9800 10000 10200 10400 10600 10800 11000 11200 11400 11600 11800 12000 12200 12400 12600 12800 13000 13200 13400 13600 13800 14000 14200 14400 14600 14800 15000 15200 15400 15600 15800 16000 16200 16400 16600 16800 17000 17200 17400 17600 17800 18000 18200 18400 18600 18800 19000 19200 19400 19600 19800 20000 20200 20400 20600 20800 21000 21200 21400 21600 21800 22000 22200 22400 22600 22800 23000 23200 23400 23600 23800 24000 24200 24400 24600 24800 25000 25200 25400 25600 25800 26000 26200 26400 26600 26800 27000 27200 27400 27600 27800 28000 28200 28400 28600 28800 29000 29200 29400 29600 29800 30000 30200 30400 30600 30800 31000 31200 31400 31600 31800 32000 32200 32400 32600 32800 33000 33200 33400 33600 33800 34000 34200 34400 34600 34800 35000 35200 35400 35600 35800 36000 36200 36400 36600 36800 37000 37200 37400 37600 37800 38000 38200 38400 38600 38800 39000 39200 39400 39600 39800 40000 40200 40400 40600 40800 41000 41200 41400 41600 41800 42000 42200 42400 42600 42800 43000 43200 43400 43600 43800 44000 44200 44400 44600 44800 45000 45200 45400 45600 45800 46000 46200 46400 46600 46800 47000 47200 47400 47600 47800 48000 48200 48400 48600 48800 49000 49200 49400 49600 49800 50000 50200 50400 50600 50800 51000 51200 51400 51600 51800 52000 52200 52400 52600 52800 53000 53200 53400 53600 53800 54000 54200 54400 54600 54800 55000 55200 55400 55600 55800 56000 56200 56400 56600 56800 57000 57200 57400 57600 57800 58000 58200 58400 58600 58800 59000 59200 59400 59600 59800 60000 60200 60400 60600 60800 61000 61200 61400 61600 61800 62000 62200 62400 62600 62800 63000 63200 63400 63600 63800 64000 64200 64400 64600 64800 65000 65200 65400 65600 65800 66000 66200 66400 66600 66800 67000 67200 67400 67600 67800 68000 68200 68400 68600 68800 69000 69200 69400 69600 69800 70000 70200 70400 70600 70800 71000 71200 71400 71600 71800 72000 72200 72400 72600 72800 73000 73200 73400 73600 73800 74000 74200 74400 74600 74800 75000 75200 75400 75600 75800 76000 76200 76400 76600 76800 77000 77200 77400 77600 77800 78000 78200 78400 78600 78800 79000 79200 79400 79600 79800 80000 80200 80400 80600 80800 81000 81200 81400 81600 81800 82000 82200 82400 82600 82800 83000 83200 83400 83600 83800 84000 84200 84400 84600 84800 85000 85200 85400 85600 85800 86000 86200 86400 86600 86800 87000 87200 87400 87600 87800 88000 88200 88400 88600 88800 89000 89200 89400 89600 89800 90000 90200 90400 90600 90800 91000 91200 91400 91600 91800 92000 92200 92400 92600 92800 93000 93200 93400 93600 93800 94000 94200 94400 94600 94800 95000 95200 95400 95600 95800 96000 96200 96400 96600 96800 97000 97200 97400 97600 97800 98000 98200 98400 98600 98800 99000 99200 99400 99600 99800 100000 100200 100400 100600 100800 101000 101200 101400 101600 101800 102000 102200 102400 102600 102800 103000 103200 103400 103600 103800 104000 104200 104400 104600 104800 105000 105200 105400 105600 105800 106000 106200 106400 106600 106800 107000 107200 107400 107600 107800 108000 108200 108400 108600 108800 109000 109200 109400 109600 109800 110000 110200 110400 110600 110800 111000 111200 111400 111600 111800 112000 112200 112400 112600 112800 113000 113200 113400 113600 113800 114000 114200 114400 114600 114800 115000 115200 115400 115600 115800 116000 116200 116400 116600 116800 117000 117200 117400 117600 117800 118000 118200 118400 118600 118800 119000 119200 119400 119600 119800 120000 120200 120400 120600 120800 121000 121200 121400 121600 121800 122000 122200 122400 122600 122800 123000 123200 123400 123600 123800 124000 124200 124400 124600 124800 125000 125200 125400 125600 125800 126000 126200 126400 126600 126800 127000 127200 127400 127600 127800 128000 128200 128400 128600 128800 129000 129200 129400 129600 129800 130000 130200 130400 130600 130800 131000 131200 131400 131600 131800 132000 132200 132400 132600 132800 133000 133200 133400 133600 133800 134000 134200 134400 134600 134800 135000 135200 135400 135600 135800 136000 136200 136400 136600 136800 137000 137200 137400 137600 137800 138000 138200 138400 138600 138800 139000 139200 139400 139600 139800 140000 140200 140400 140600 140800 141000 141200 141400 141600 141800 142000 142200 142400 142600 142800 143000 143200 143400 143600 143800 144000 144200 144400 144600 144800 145000 145200 145400 145600 145800 146000 146200 146400 146600 146800 147000 147200 147400 147600 147800 148000 148200 148400 148600 148800 149000 149200 149400 149600 149800 150000 150200 150400 150600 150800 151000 151200 151400 151600 151800 152000 152200 152400 152600 152800 153000 153200 153400 153600 153800 154000 154200 154400 154600 154800 155000 155200 155400 155600 155800 156000 156200 156400 156600 156800 157000 157200 157400 157600 157800 158000 158200 158400 158600 158800 159000 159200 159400 159600 159800 160000 160200 160400 160600 160800 161000 161200 161400 161600 161800 162000 162200 162400 162600 162800 163000 163200 163400 163600 163800 164000 164200 164400 164600 164800 165000 165200 165400 165600 165800 166000 166200 166400 166600 166800 167000 167200 167400 167600 167800 168000 168200 168400 168600 168800 169000 169200 169400 169600 169800 170000 170200 170400 170600 170800 171000 171200 171400 171600 171800 172000 172200 172400 172600 172800 173000 173200 173400 173600 173800 174000 174200 174400 174600 174800 175000 175200 175400 175600 175800 176000 176200 176400 176600 176800 177000 177200 177400 177600 177800 178000 178200 178400 178600 178800 179000 179200 179400 179600 179800 180000 180200 180400 180600 180800 181000 181200 181400 181600 181800 182000 182200 182400 182600 182800 183000 183200 183400 183600 183800 184000 184200 184400 184600 184800 185000 185200 185400 185600 185800 186000 186200 186400 186600 186800 187000 187200 187400 187600 187800 188000 188200 188400 188600 188800 189000 189200 189400 189600 189800 190000 190200 190400 190600 190800 191000 191200 191400 191600 191800 192000 192200 192400 192600 192800 193000 193200 193400 193600 193800 194000 194200 194400 194600 194800 195000 195200 195400 195600 195800 196000 196200 196400 196600 196800 197000 197200 197400 197600 197800 198000 198200 198400 198600 198800 199000 199200 199400 199600 199800 200000 200200 200400 200600 200800 201000 201200 201400 201600 201800 202000 202200 202400 202600 202800 203000 203200 203400 203600 203800 204000 204200 204400 204600 204800 205000 205200 205400 205600 205800 206000 206200 206400 206600 206800 207000 207200 207400 207600 207800 208000 208200 208400 208600 208800 209000 209200 209400 209600 209800 210000 210200 210400 210600 210800 211000 211200 211400 211600 211800 212000 212200 212400 212600 212800 213000 213200 213400 213600 213800 214000 214200 214400 214600 214800 215000 215200 215400 215600 215800 216000 216200 216400 216600 216800 217000 217200 217400 217600 217800 218000 218200 218400 218600 218800 219000 219200 219400 219600 219800 220000 220200 220400 220600 220800 221000 221200 221400 221600 221800 222000 222200 222400 222600 222800 223000 223200 223400 223600 223800 224000 224200 224400 224600 224800 225000 225200 225400 225600 225800 226000 226200 226400 226600 226800 227000 227200 227400 227600 227800 228000 228200 228400 228600 228800 229000 229200 229400 229600 229800 230000 230200 230400 230600 230800 231000 231200 231400 231600 231800 232000 232200 232400 232600 232800 233000 233200 233400 233600 233800 234000 234200 234400 234600 234800 235000 235200 235400 235600 235800 236000 236200 236400 236600 236800 237000 237200 237400 237600 237800 238000 238200 238400 238600 238800 239000 239200 239400 239600 239800 240000 240200 240400 240600 240800 241000 241200 241400 241600 241800 242000 242200 242400 242600 242800 243000 243200 243400 243600 243800 244000 244200 244400 244600 244800 245000 245200 245400 245600 245800 246000 246200 246400 246600 246800 247000 247200 247400 247600 247800 248000 248200 248400 248600 248800 249000 249200 249400 249600 249800 250000 250200 250400 250600 250800 251000 251200 251400 251600 251800 252000 252200 252400 252600 252800 253000 253200 253400 253600 253800 254000 254200 254400 254600 254800 255000 255200 255400 255600 255800 256000 256200 256400 256600 256800 257000 257200 257400 257600 257800 258000 258200 258400 258600 258800 259000 259200 259400 259600 259800 260000 260200 260400 260600 260800 261000 261200 261400 261600 261800 262000 262200 262400 262600 262800 263000 263200 263400 263600 263800 264000 264200 264400 264600 264800 265000 265200 265400 265600 265800 266000 266200 266400 266600 266800 267000 267200 267400 267600 267800 268000 268200 268400 268600 268800 269000 269200 269400 269600 269800 270000 270200 270400 270600 270800 271000 271200 271400 271600 271800 272000 272200 272400 272600 272800 273000 273200 273400 273600 273800 274000 274200 274400 274600 274800 275000 275200 275400 275600 275800 276000 276200 276400 276600 276800 277000 277200 277400 277600 277800 278000 278200 278400 278600 278800 279000 279200 279400 279600 279800 280000 280200 280400 280600 280800 281000 281200 281400 281600 281800 282000 282200 282400 282600 282800 283000 283200 283400 283600 283800 284000 284200 284400 284600 284800 285000 285200 285400 285600 285800 286000 286200 286400 286600 286800 287000 287200 287400 287600 287800 288000 288200 288400 288600 288800 289000 289200 289400 289600 289800 290000 290200 290400 290600 290800 291000 291200 291400 291600 291800 292000 292200 292400 292600 292800 293000 293200 293400 293600 293800 294000 294200 294400 294600 294800 295000 295200 295400 295600 295800 296000 296200 296400 296600 296800 297000 297200 297400 297600 297800 298000 298200 298400 298600 298800 299000 299200 299400 299600 299800 300000 300200 300400 300600 300800 301000 301200 301400 301600 301800 302000 302200 302400 302600 302800 303000 303200 303400 303600 303800 304000 304200 304400 304600 304800 305000 305200 305400 305600 305800 306000 306200 306400 306600 306800 307000 307200 307400 307600 307800 308000 308200 308400 308600 308800 309000 309200 309400 309600 309800 310000 310200 310400 310600 310800 311000 311200 311400 311600 311800 312000 312200 312400 312600 312800 313000 313200 313400 313600 313800 314000 314200 314400 314600 314800 315000 315200 315400 315600 315800 316000 316200 316400 316600 316800 317000 317200 317400 317600 317800 318000 318200 318400 318600 318800 319000 319200 319400 319600 319800 320000 320200 320400 320600 320800 321000 321200 321400 321600 321800 322000 322200 322400 322600 322800 323000 323200 323400 323600 323800 324000 324200 324400 324600 324800 325000 325200 325400 325600 325800 326000 326200 326400 326600 326800 327000 327200 327400 327600 327800 328000 328200 328400 328600 328800 329000 329200 329400 329600 329800 330000 330200 330400 330600 330800 331000 331200 331400 331600 331800 332000 332200 332400 332600 332800 333000 333200 333400 333600 333800 334000 334200 334400 334600 334800 335000 335200 335400 335600 335800 336000 336200 336400 336600 336800 337000 337200 337400 337600 337800 338000 338200 338400 338600 338800 339000 339200 339400 339600 339800 340000 340200 340400 340600 340800 341000 341200 341400 341600 341800 342000 342200 342400 342600 342800 343000 343200 343400 343600 343800 344000 344200 344400 344600 344800 345000 345200 345400 345600 345800 346000 346200 346400 346600 346800 347000 347200 347400 347600 347800 348000 348200 348400 348600 348800 349000 349200 349400 349600 349800 350000 350200 350400 350600 350800 351000 351200 351400 351600 351800 352000 352200 352400 352600 352800 353000 353200 353400 353600 353800 354000 354200 354400 354600 354800 355000 355200 355400 355600 355800 356000 356200 356400 356600 356800 357000 357200 357400 357

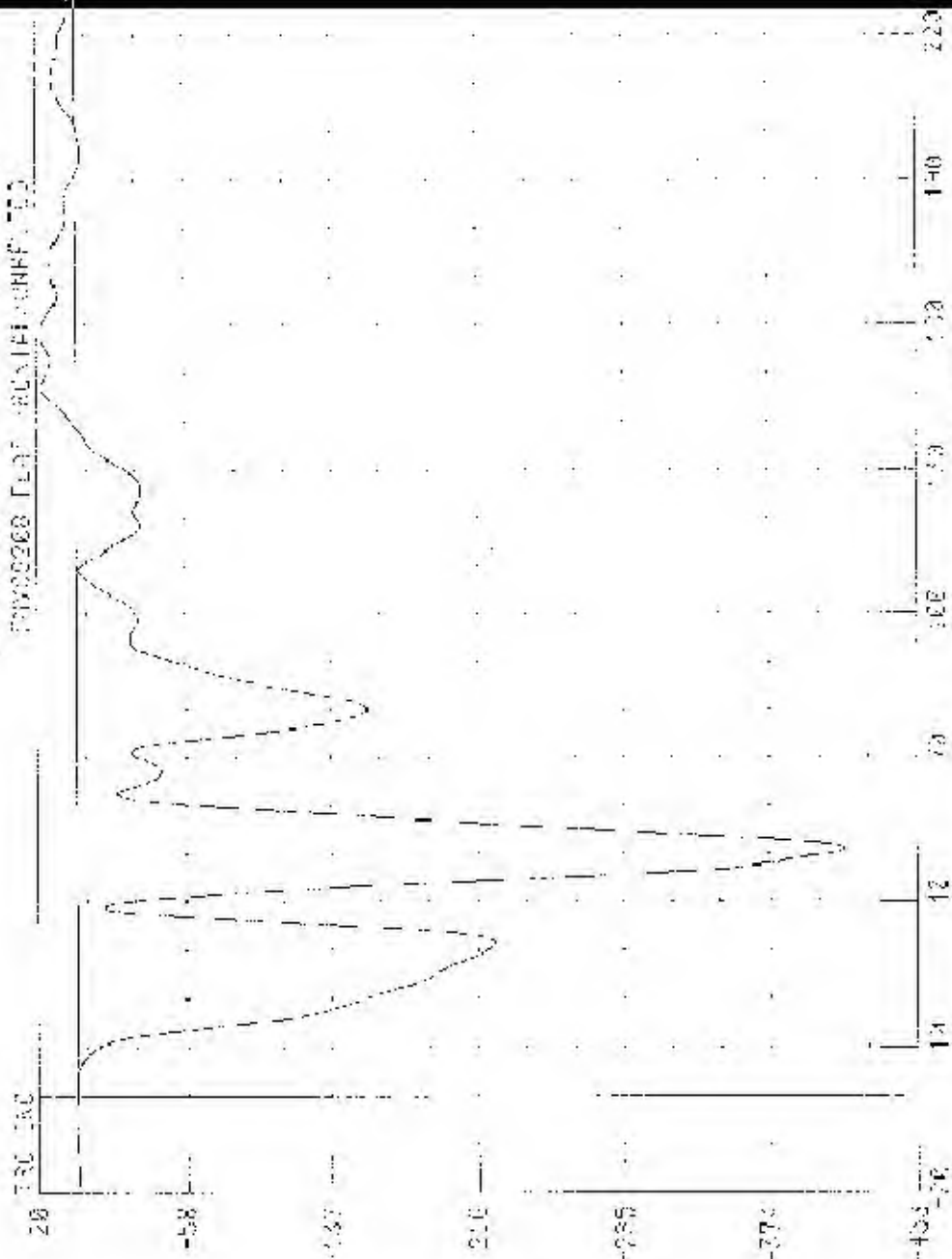


030100 / 0023 CHEVROLE, 514PH40 1500 24, 4P00, P3 163

FASTAL DET-ON 4-1415 1000F:ESPL:OK

00000268 DET-ON 4-1415 1000F:ESPL:OK

0001 000200 071119-1



CHANNEL 15VX0 H10 LR 200 CLASS 00

0000 1910 1 50 3 0 10 32 PS, -41 00 0 9 93 12 MS

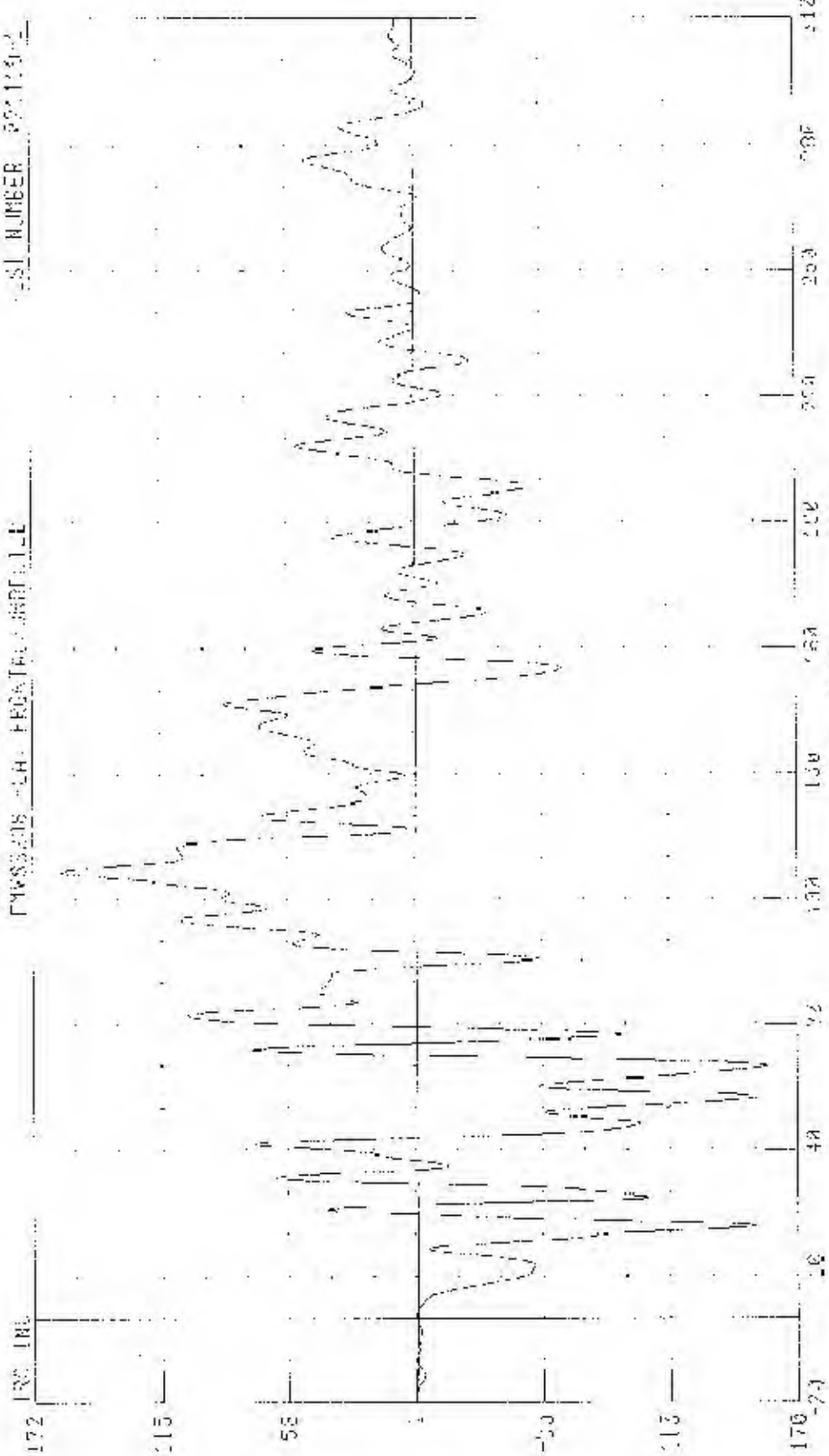


0.38147 2 2003 OCTOBER 17 1500 2ND RELI 40 CAD

REAR DECK 2 4810 6000 10000

PROSSESSORS 1400 FREQUENCY 1000000

SI NUMBER 001119-1

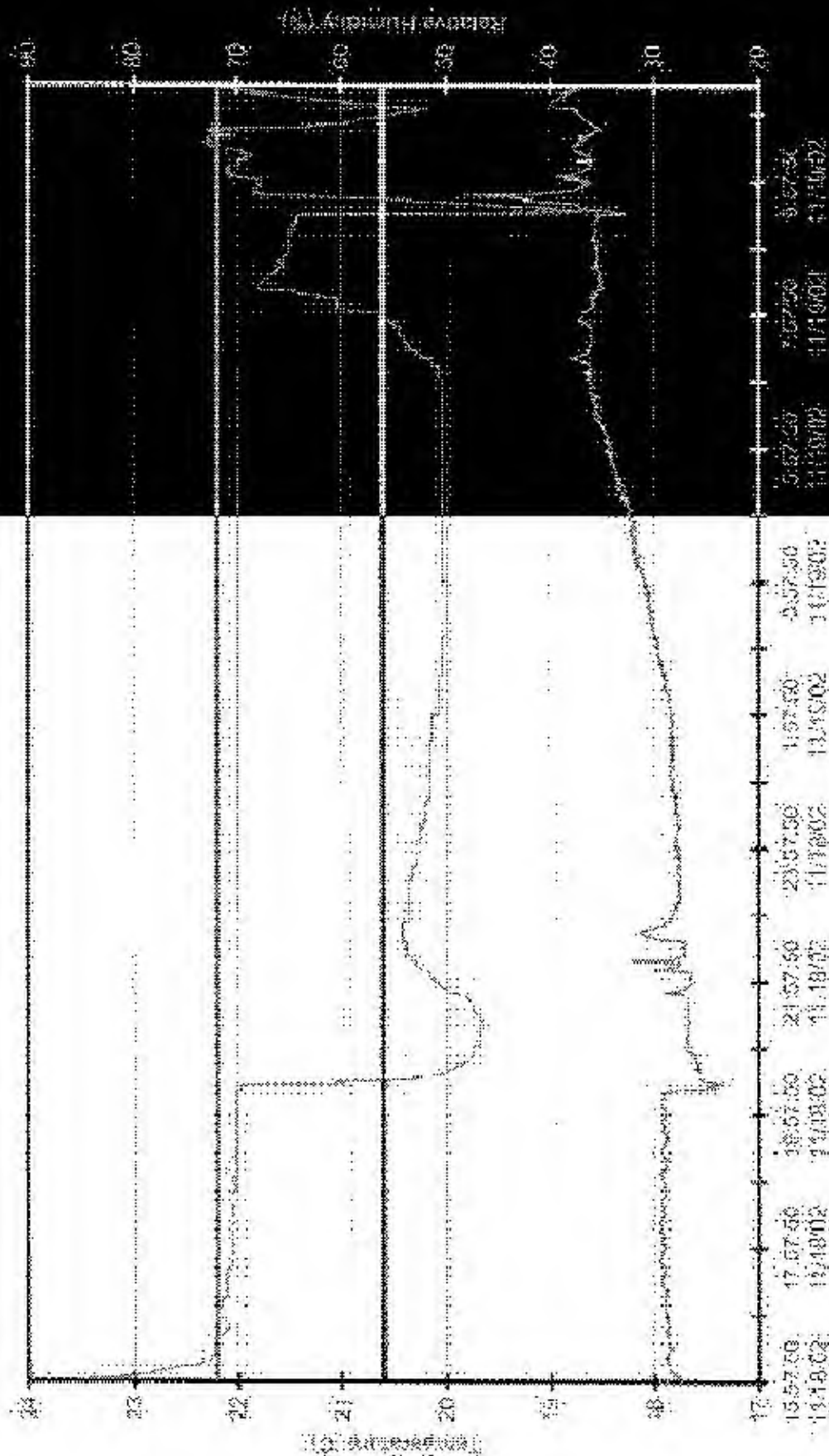


MODEL 1000 (1 & 1000)

CHANNEL 10000 1119-1 001119-1

FILE 1000 15 00 00 100 02 03 -15 00 00 00 00 00 00

C30102 / 2003 Chevrolet Silverado Regular Cab 021419-1



Pre-Test Dummy Soak Time (Test Times: #123)

Lower and Upper Temperature Bounds Indicated with Bold Lines at 20.6°C and 22.2°C



Section 7  
Photographs

### List of Photographs

<u>Image</u>	<u>Image Title</u>	<u>Page</u>
1	Pre-Test Front View	7-5
2	Post-Test Front View	7-6
3	Pre-Test Left Side View	7-7
4	Post-Test Left Side View	7-8
5	Pre-Test Right Side View	7-9
6	Post-Test Right Side View	7-10
7	Pre-Test Left Front Three-Quarter View	7-11
8	Post-Test Left Front Three-Quarter View	7-12
9	Pre-Test Right Rear Three-Quarter View	7-13
10	Post-Test Right Rear Three-Quarter View	7-14
11	Pre-Test Windshield View	7-15
12	Post-Test Windshield View	7-16
13	Pre-Test Engine Compartment View	7-17
14	Post-Test Engine Compartment View	7-18
15	Pre-Test Steering Column and Firewall - Under Hood View	7-19
16	Post-Test Steering Column and Firewall - Under Hood View	7-20
17	Pre-Test Steering Column and Steering Box View	7-21
18	Post-Test Steering Column and Steering Box View	7-22
19	Pre-Test Steering Column and Firewall - Interior View	7-23
20	Post-Test Steering Column and Firewall - Interior View	7-24
21	Pre-Test Front Underbody View	7-25
22	Post-Test Front Underbody View	7-26
23	Pre-Test Mid Underbody View	7-27
24	Post-Test Mid Underbody View	7-28
25	Pre-Test Rear Underbody View	7-29
26	Post-Test Rear Underbody View	7-30
27	Pre-Test Fuel Tank View	7-31
28	Post-Test Fuel Tank View	7-32
29	Pre-Test Fuel Lines and Filter View	7-33

List of Photographs, Continued

<u>Image</u>	<u>Image Title</u>	<u>Page</u>
30	Post-Test Fuel Lines and Filter View	7-34
31	Pre-Test Fuel Filler Neck View	7-35
32	Post-Test Fuel Filler Neck View	7-36
33	Pre-Test Fuel Filler Cap View	7-37
34	Post-Test Fuel Filler Cap View	7-38
35	Pre-Test Driver Dummy Front View	7-39
36	Post-Test Driver Dummy Front View	7-40
37	Pre-Test Driver Dummy Position View	7-41
38	Post-Test Driver Dummy Position View	7-42
39	Pre-Test Driver Dummy & Vehicle Intrusion View	7-43
40	Post-Test Driver Dummy & Vehicle Intrusion View	7-44
41	Pre-Test Passenger Dummy Front View	7-45
42	Post-Test Passenger Dummy Front View	7-46
43	Pre-Test Passenger Dummy Position View	7-47
44	Post-Test Passenger Dummy Position View	7-48
45	Pre-Test Passenger Dummy & Vehicle Intrusion View	7-49
46	Post-Test Passenger Dummy & Vehicle Intrusion View	7-50
47	Post-Test Driver Dummy View	7-51
48	Post-Test Driver Dummy Head Contact - View 1	7-52
49	Post-Test Driver Dummy Head Contact - View 2	7-53
50	Pre-Test Driver Dummy Knee Bolster View	7-54
51	Post-Test Driver Dummy Knee Contact - View 1	7-55
52	Post-Test Driver Dummy Knee Contact - View 2	7-56
53	Post-Test Passenger Dummy View	7-57
54	Post-Test Passenger Dummy Head Contact - View 1	7-58
55	Post-Test Passenger Dummy Head Contact - View 2	7-59
56	Pre-Test Passenger Dummy Knee Bolster View	7-60
57	Post-Test Passenger Dummy Knee Contact - View 1	7-61
58	Post-Test Passenger Dummy Knee Contact - View 2	7-62

List of Photographs, Continued

<u>Image</u>	<u>Image Title</u>	<u>Page</u>
59	Post-Test Vehicle on Static Rollover Device - 90° View	7-63
60	Pre-Test Vehicle Ballast View	7-64
61	Pre-Test Vehicle Certification and Recommended Tire Pressure Label View	7-65
62	Pre-Test Vehicle Window Sticker	7-66

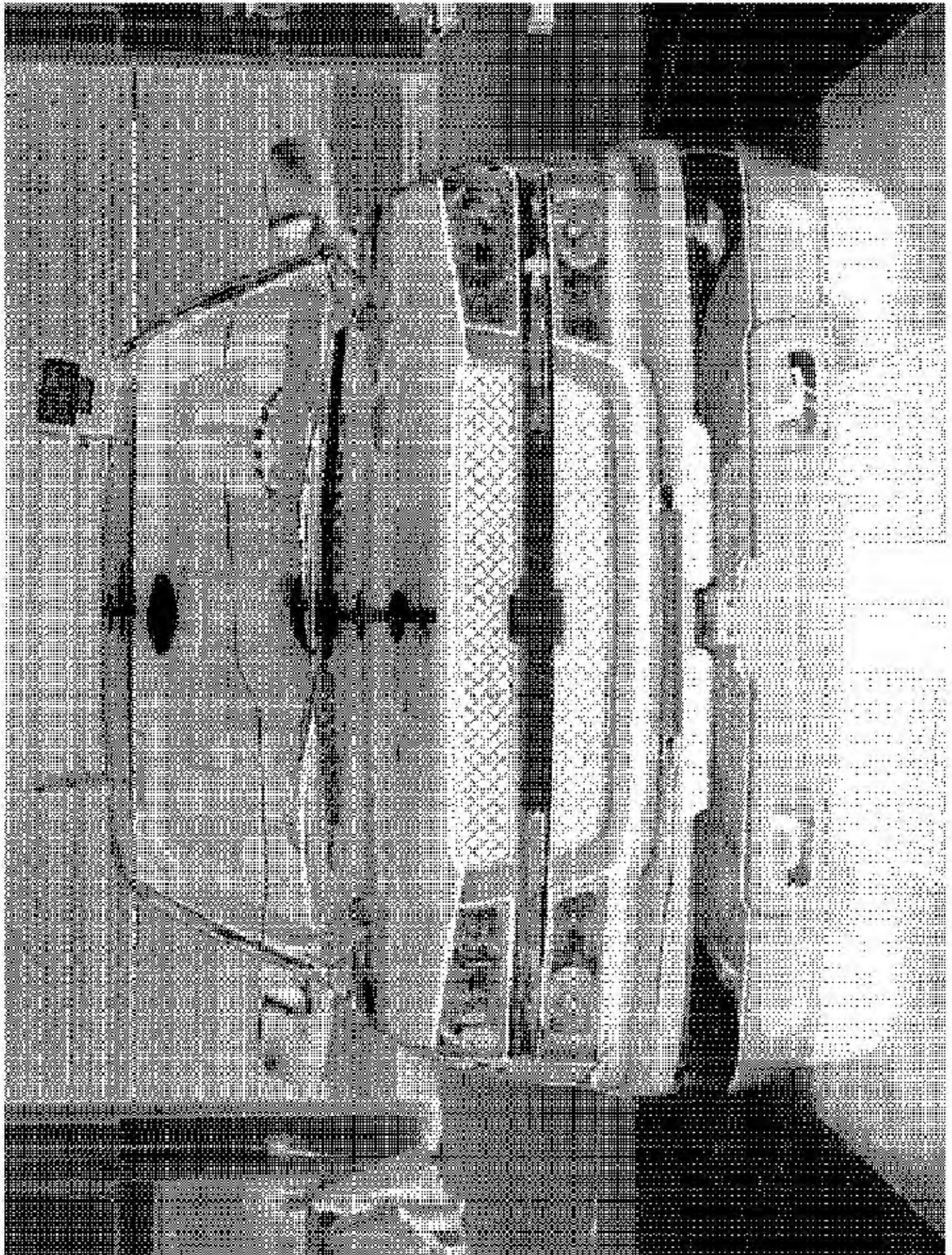


Image 1 Pre-Test Front View



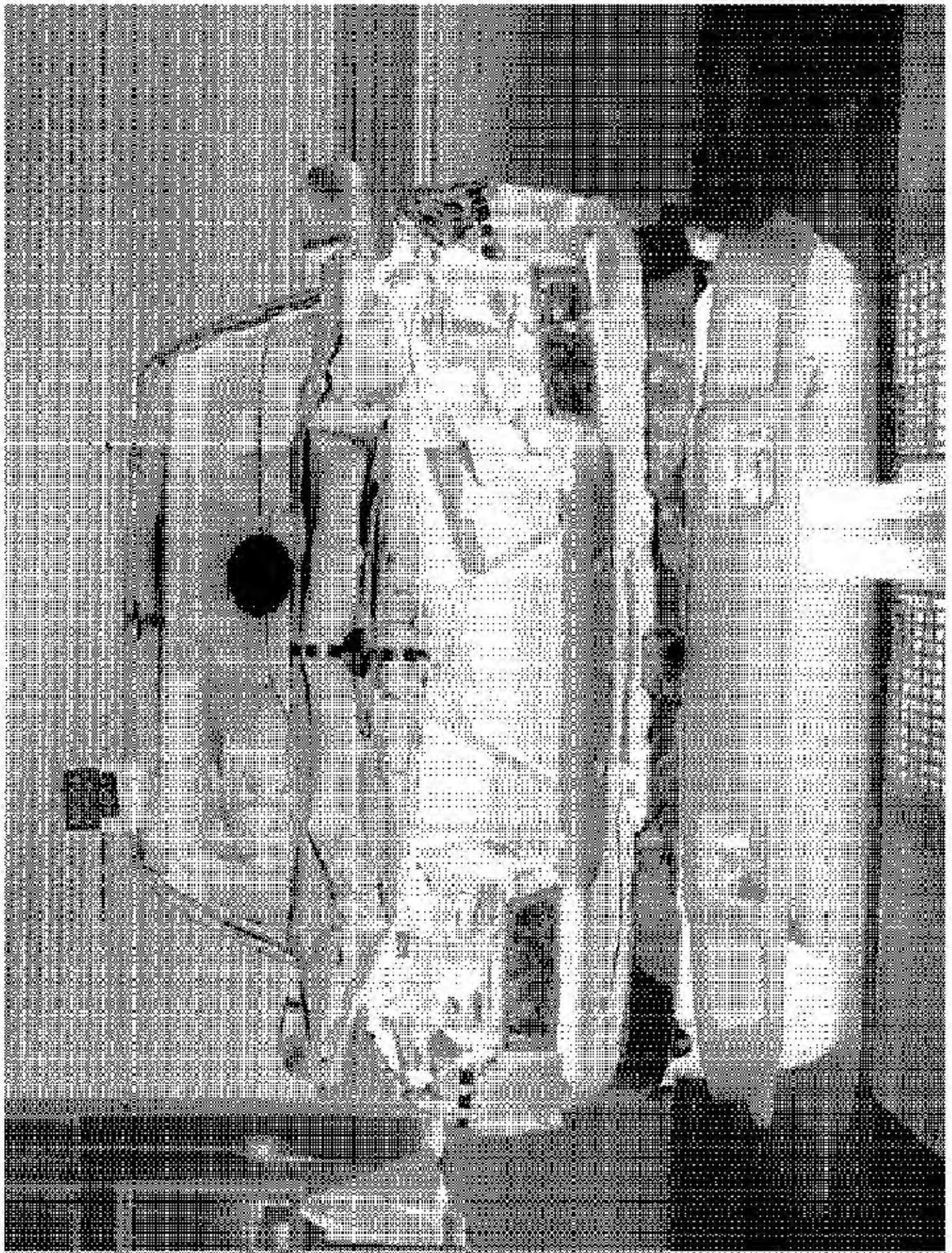


Image 2 Post-Test Front View



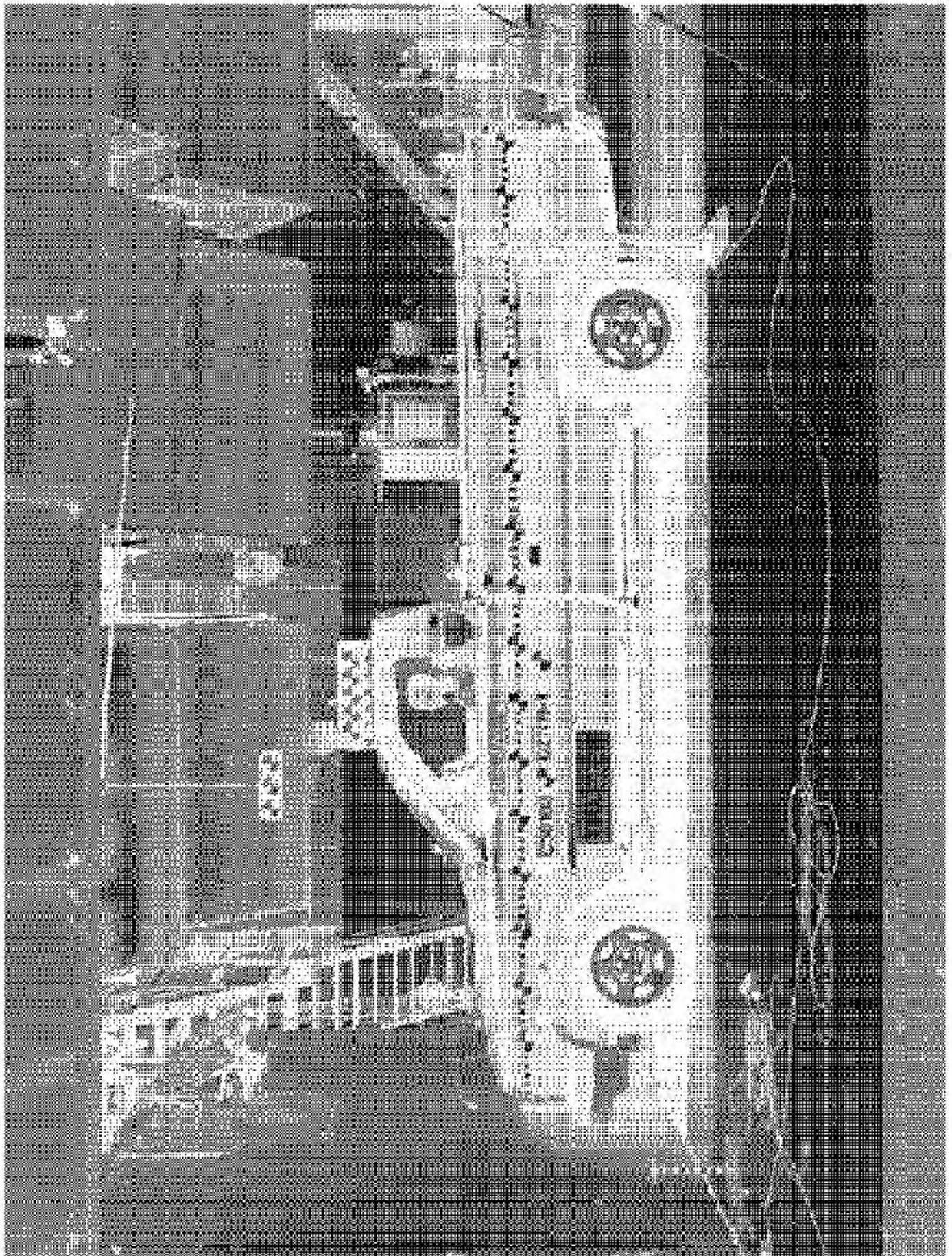


Image 3 Pre-Test Left Side View



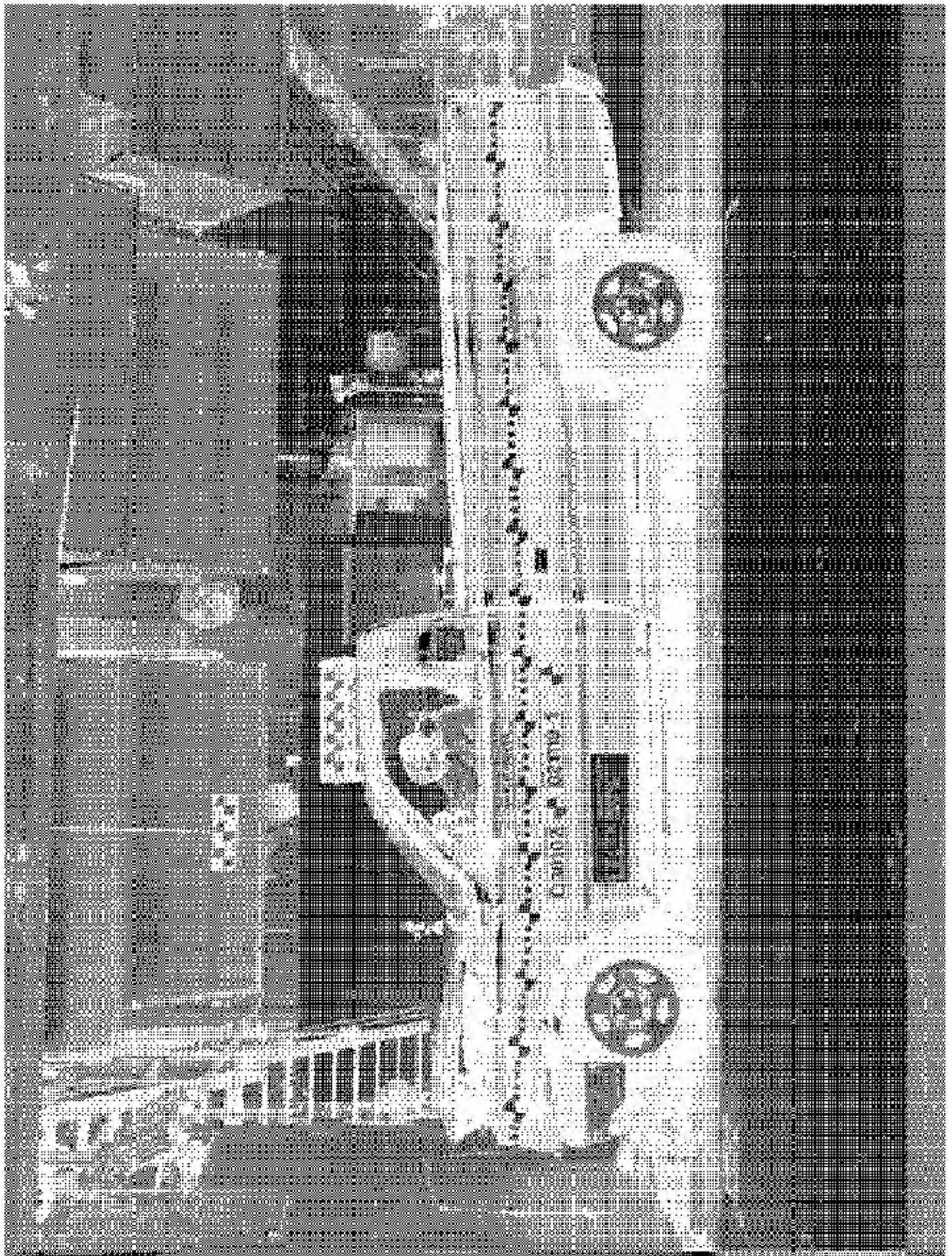


Image 4 Post-Test Left Side View



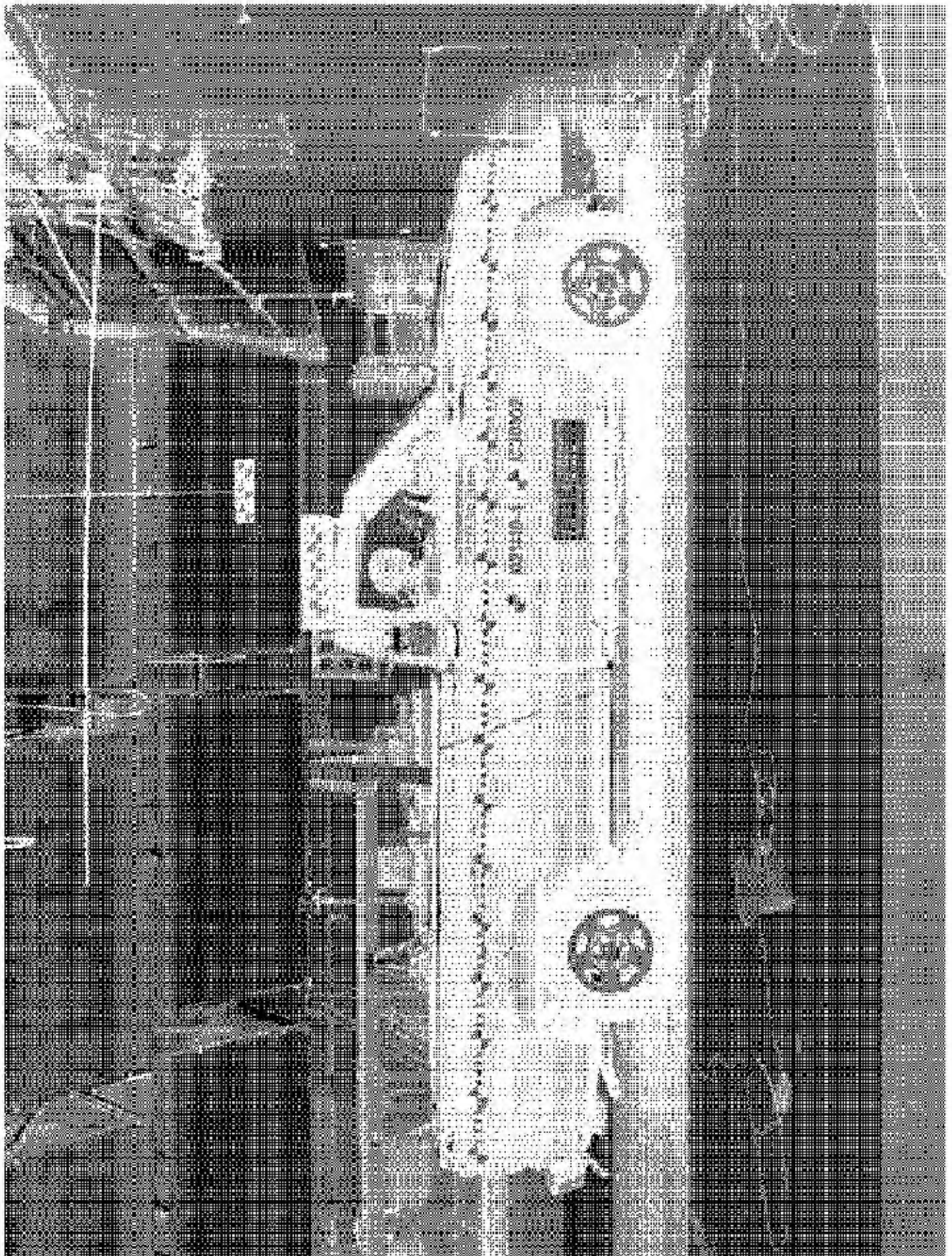


Image 5 Pre-Test Right Side View



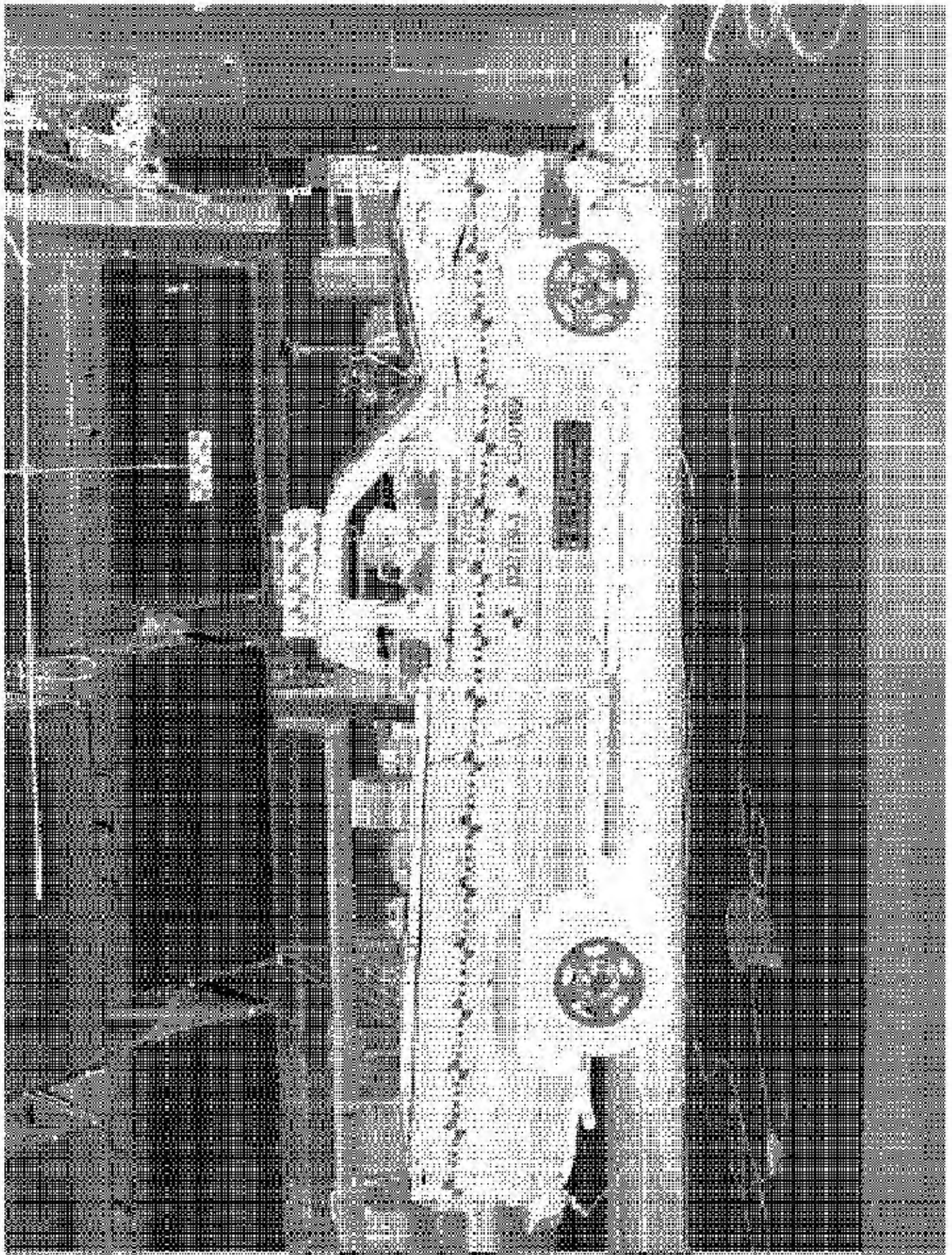


Image 6 Post-Test Right Side View



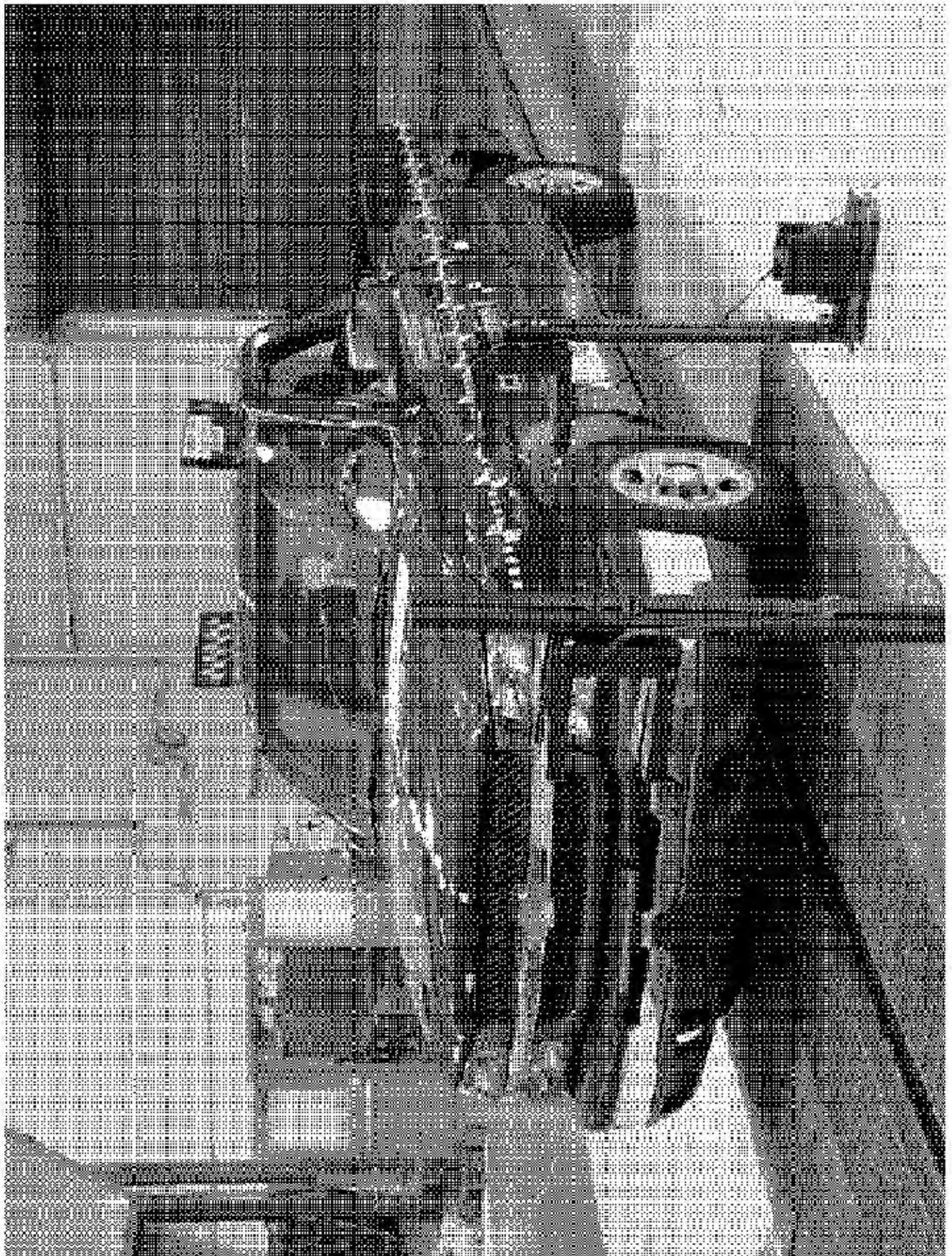


Image 7 Pre-Test Left Front Three-Quarter View



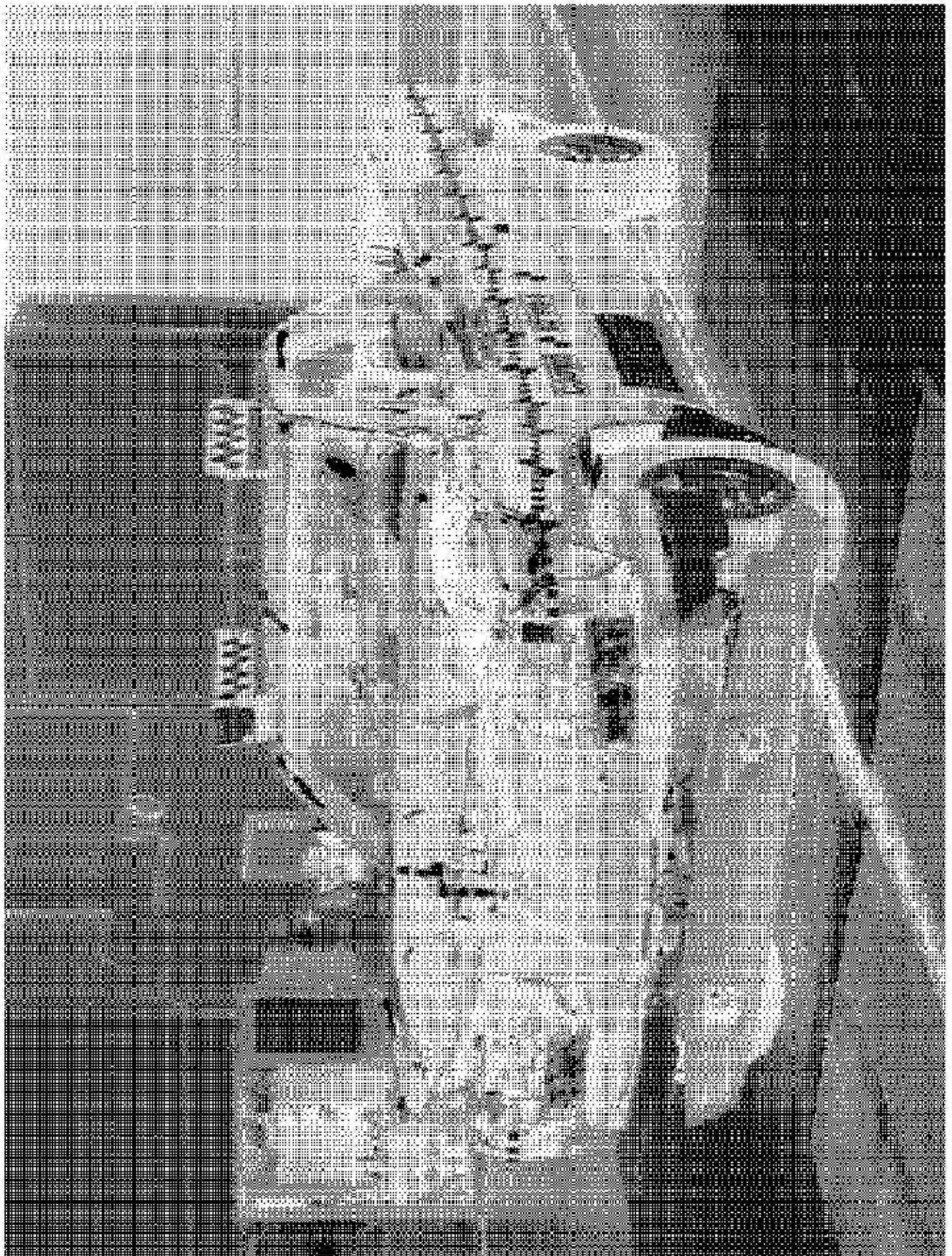


Image 8 Post-Test Left Front Three-Quarter View



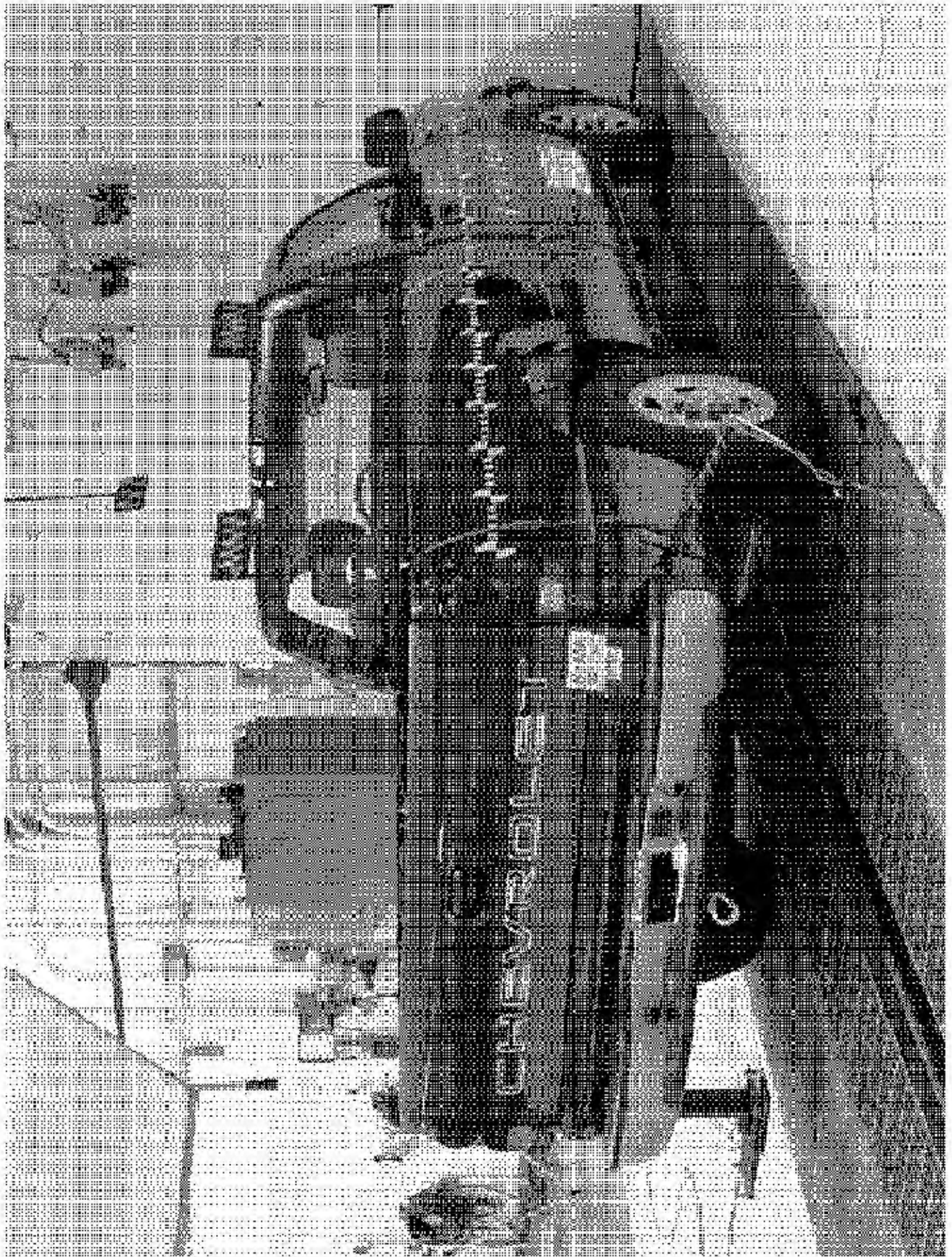


Image 9 Pre-Test Right Rear Three-Quarter View



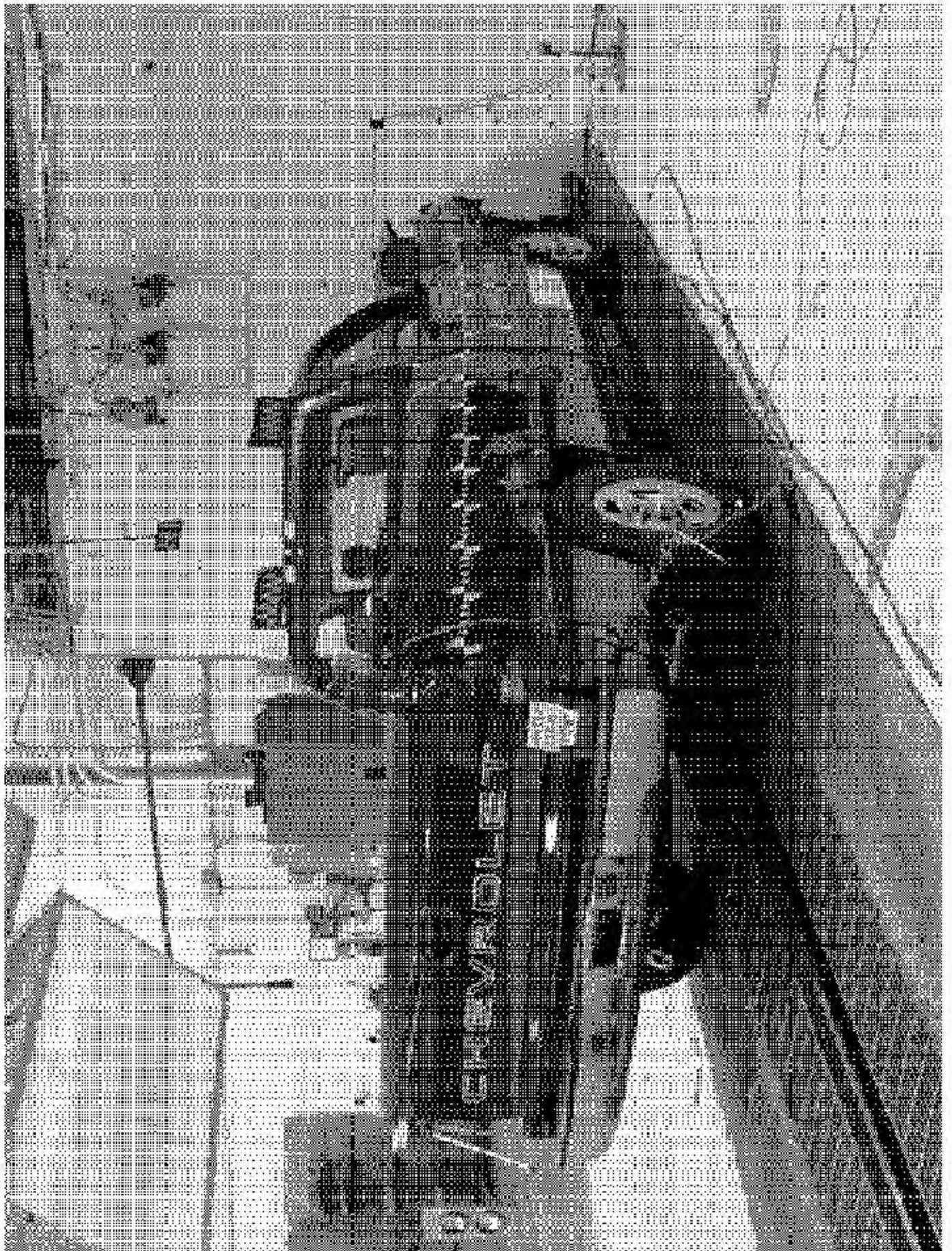


Image 10 Post-Test Right Rear Three-Quarter View



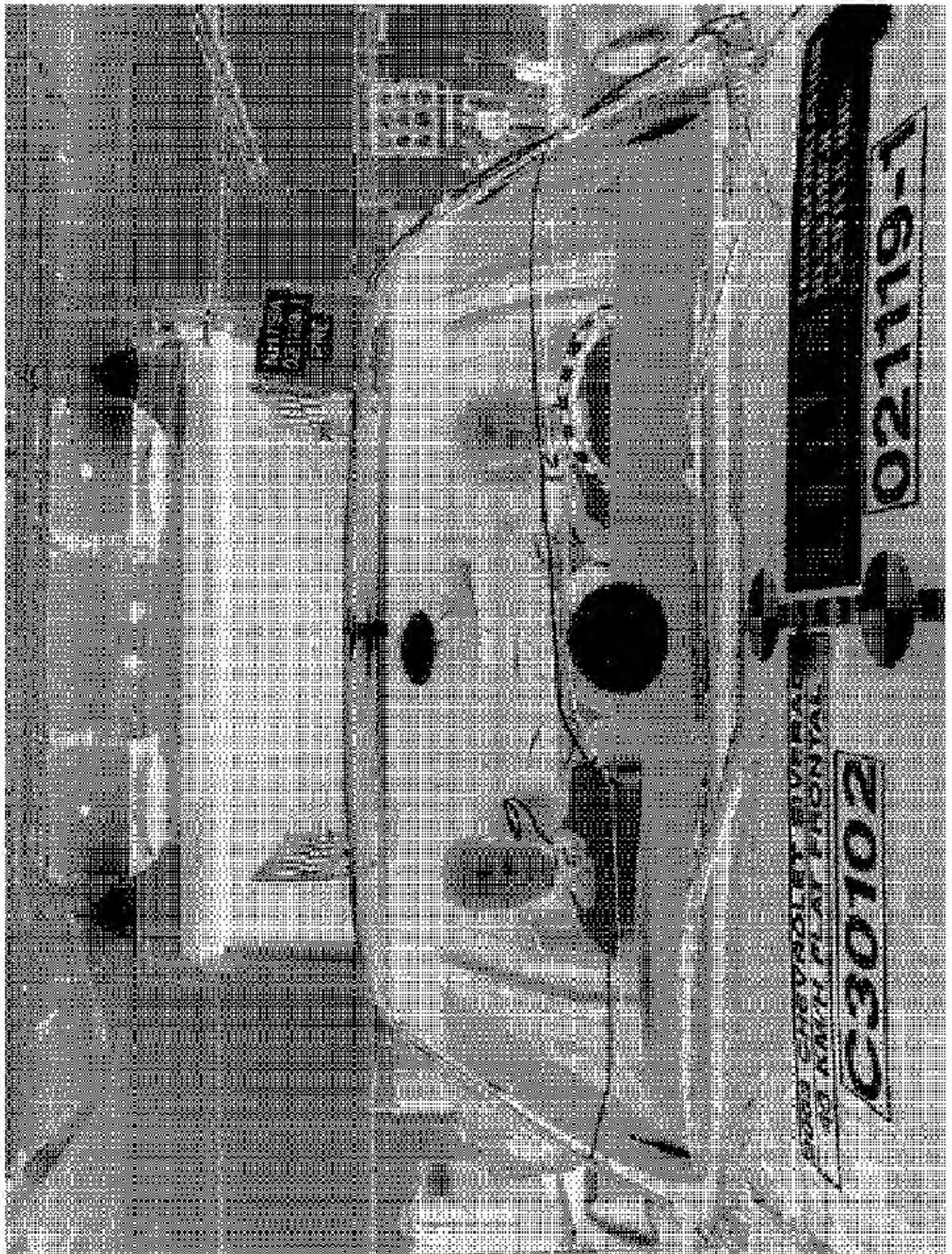


Image 11 Pre-Test Windshield View



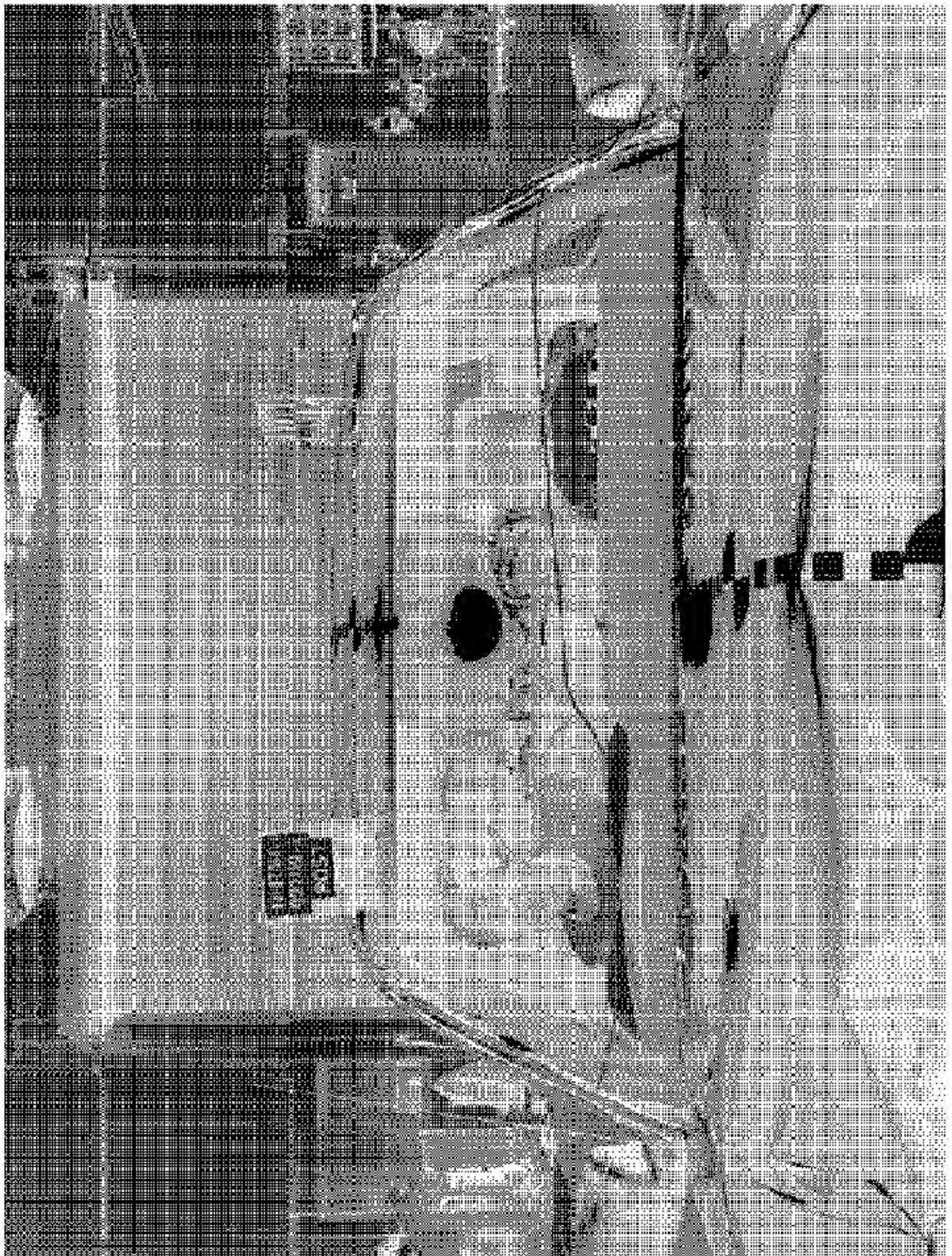


Image 12 Post-Test Windshield View



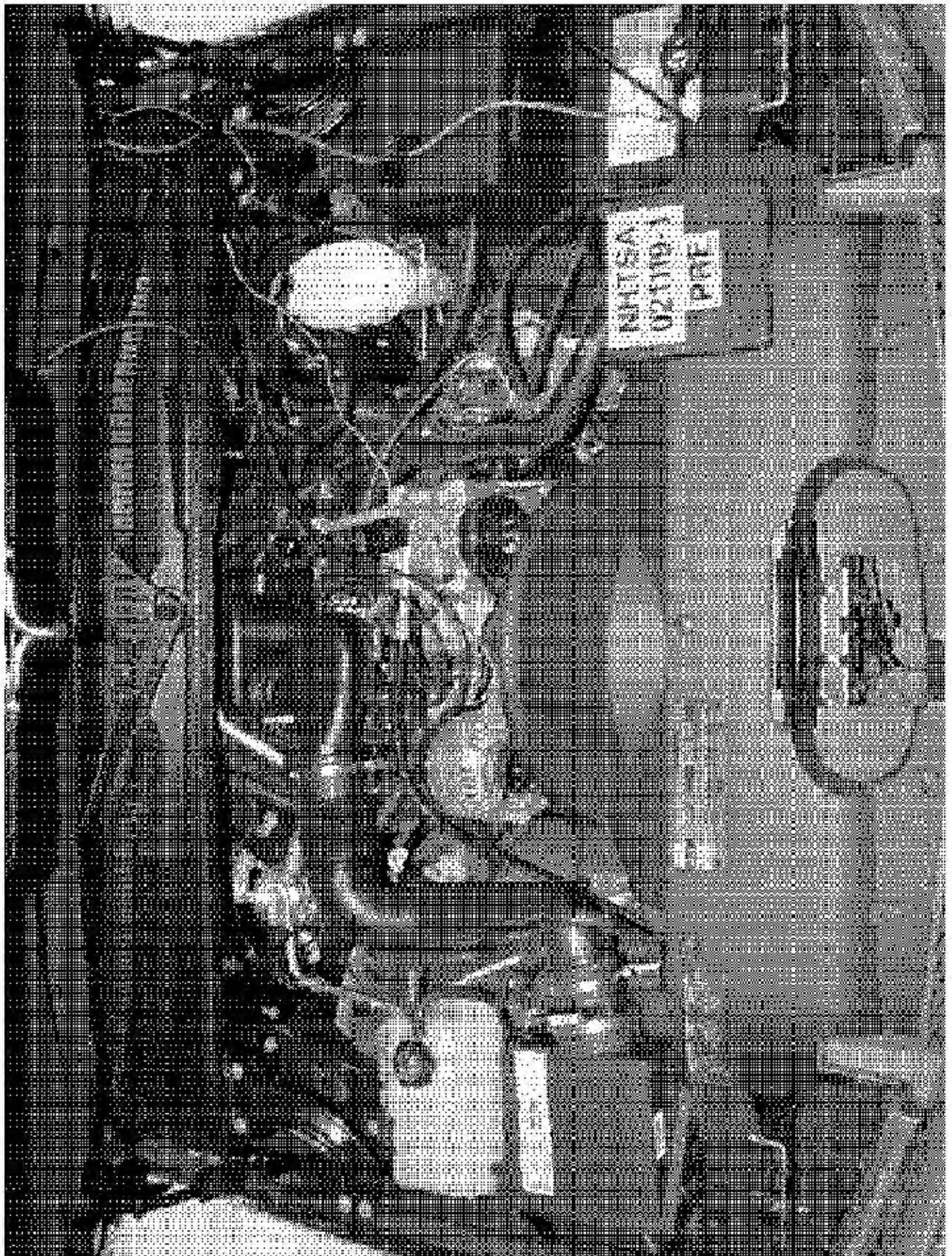


Image 13 Pre-Test Engine Compartment View



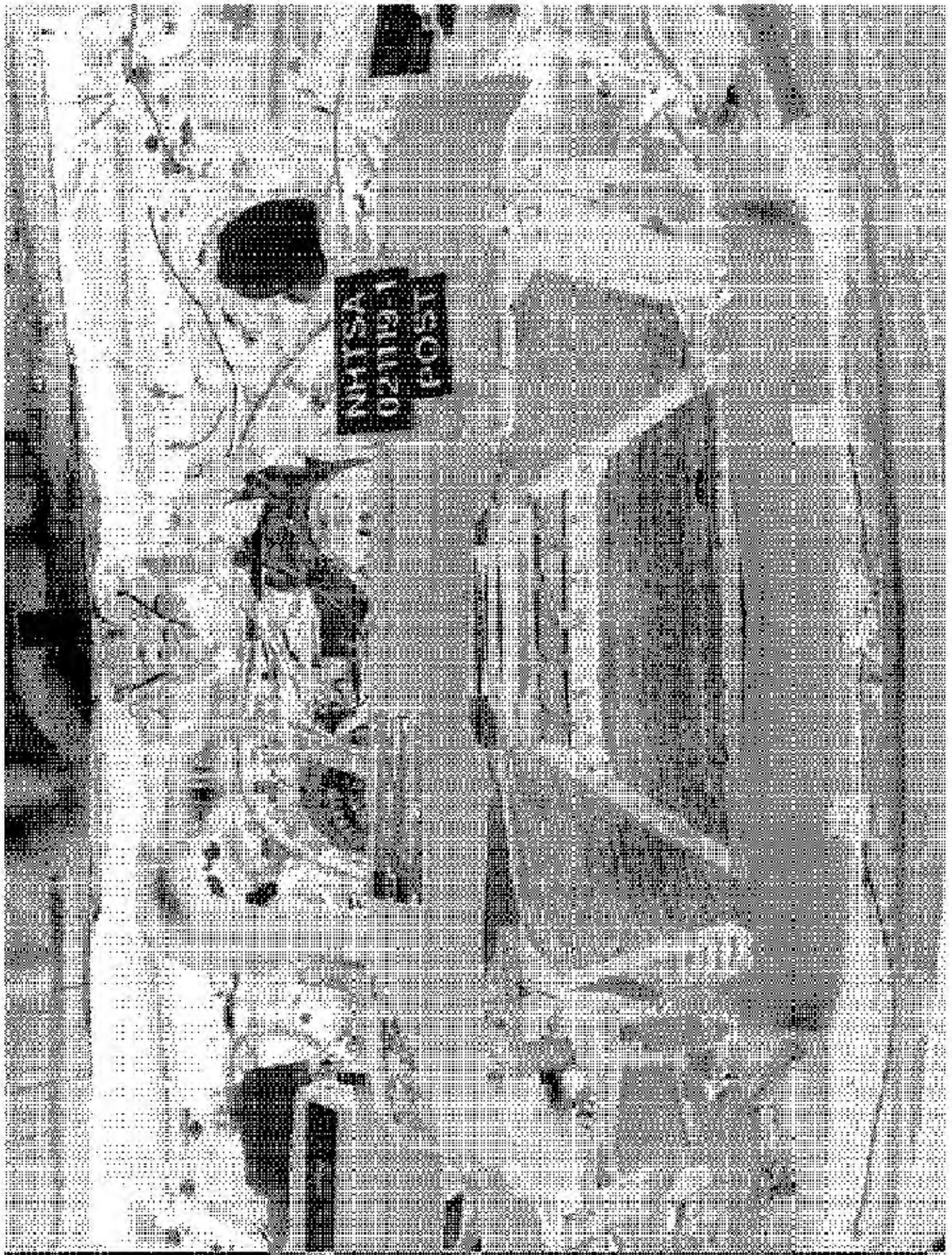


Image 14 Post-Test Engine Compartment View



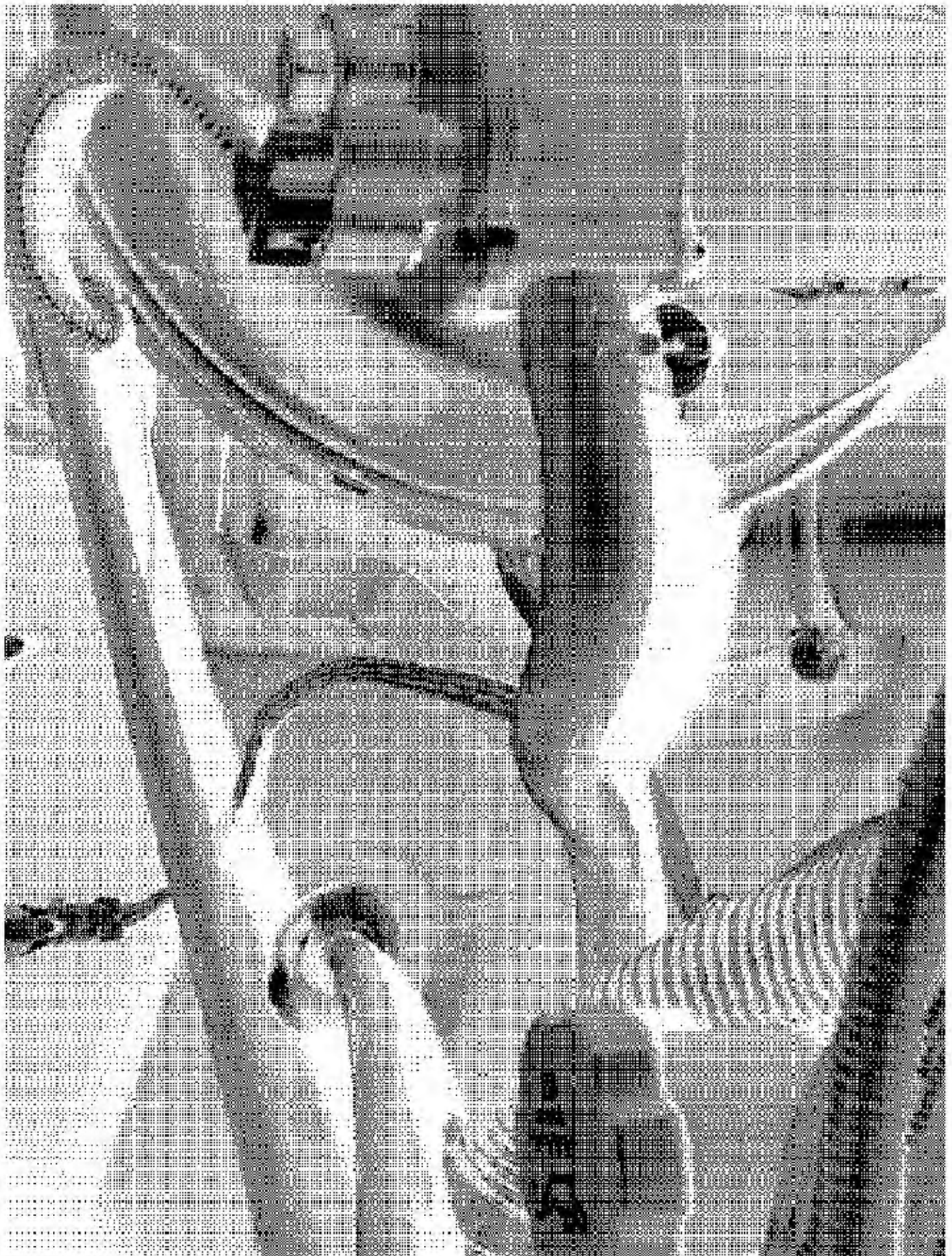
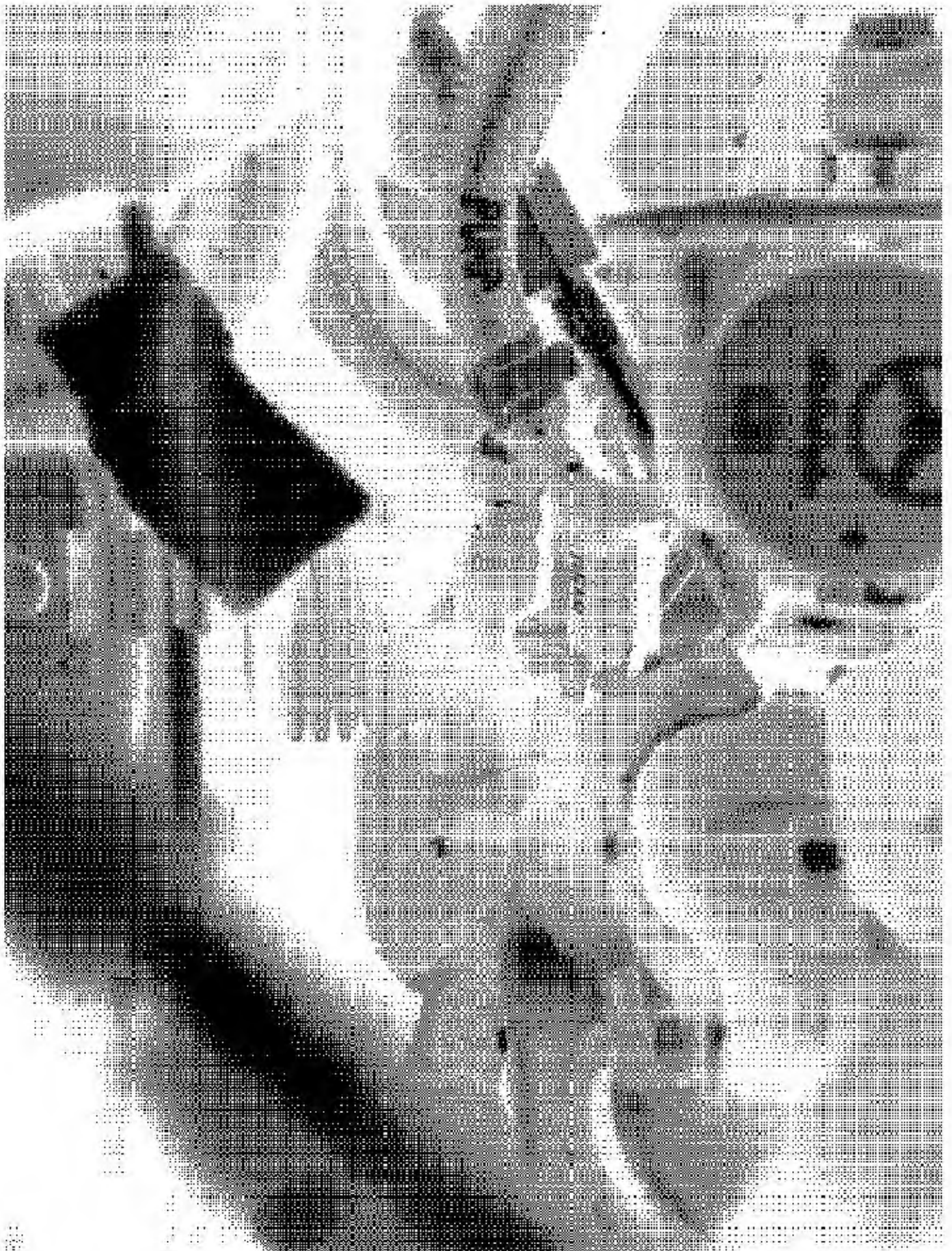


Image 15 Pre-Test Steering Column and Firewall - Under Hood View





**Image 16 Post-Test Steering Column and Firewall - Under Hood View**





Image 17 Pre-Test Steering Column and Steering Box View



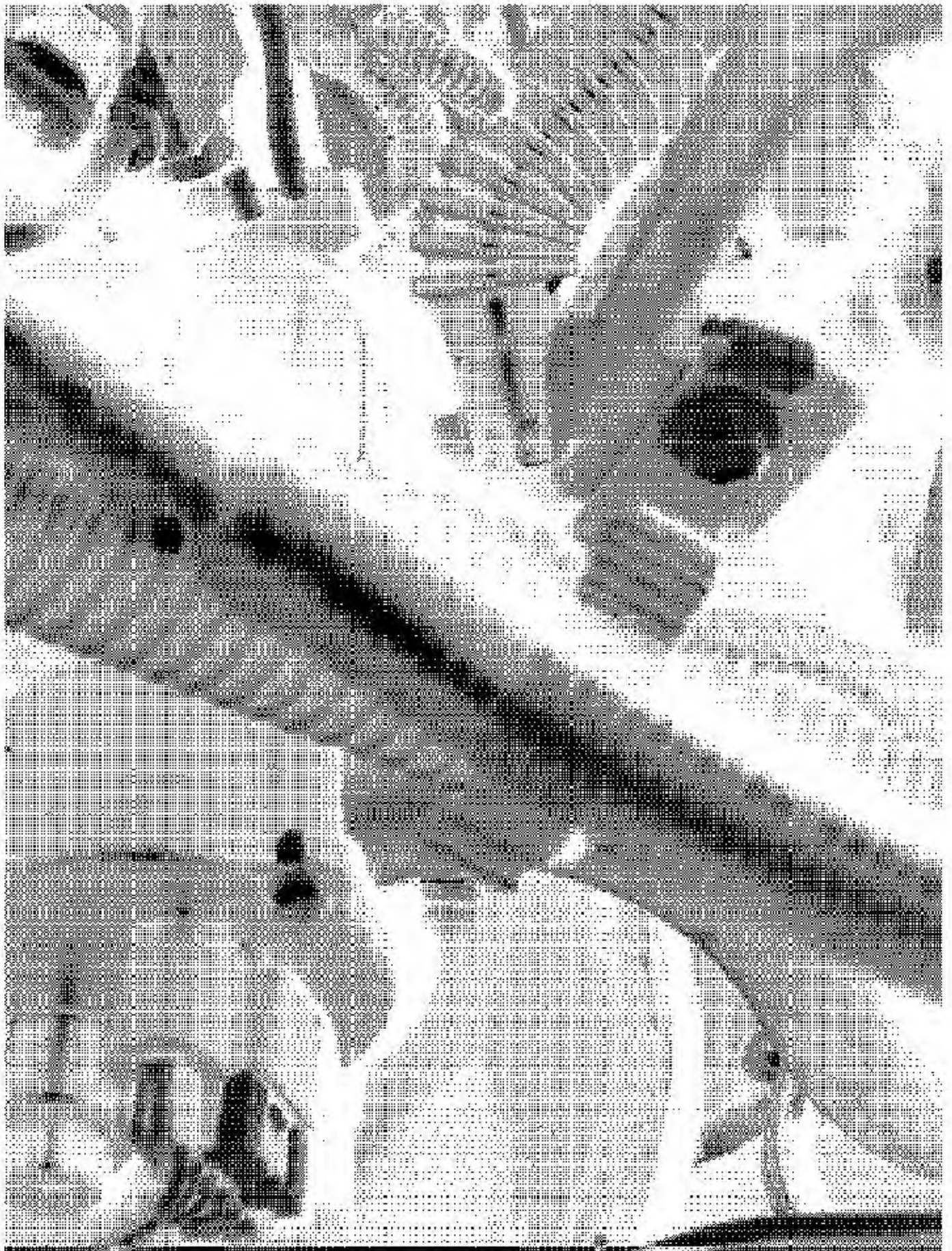


Image 18 Post-Test Steering Column and Steering Box View



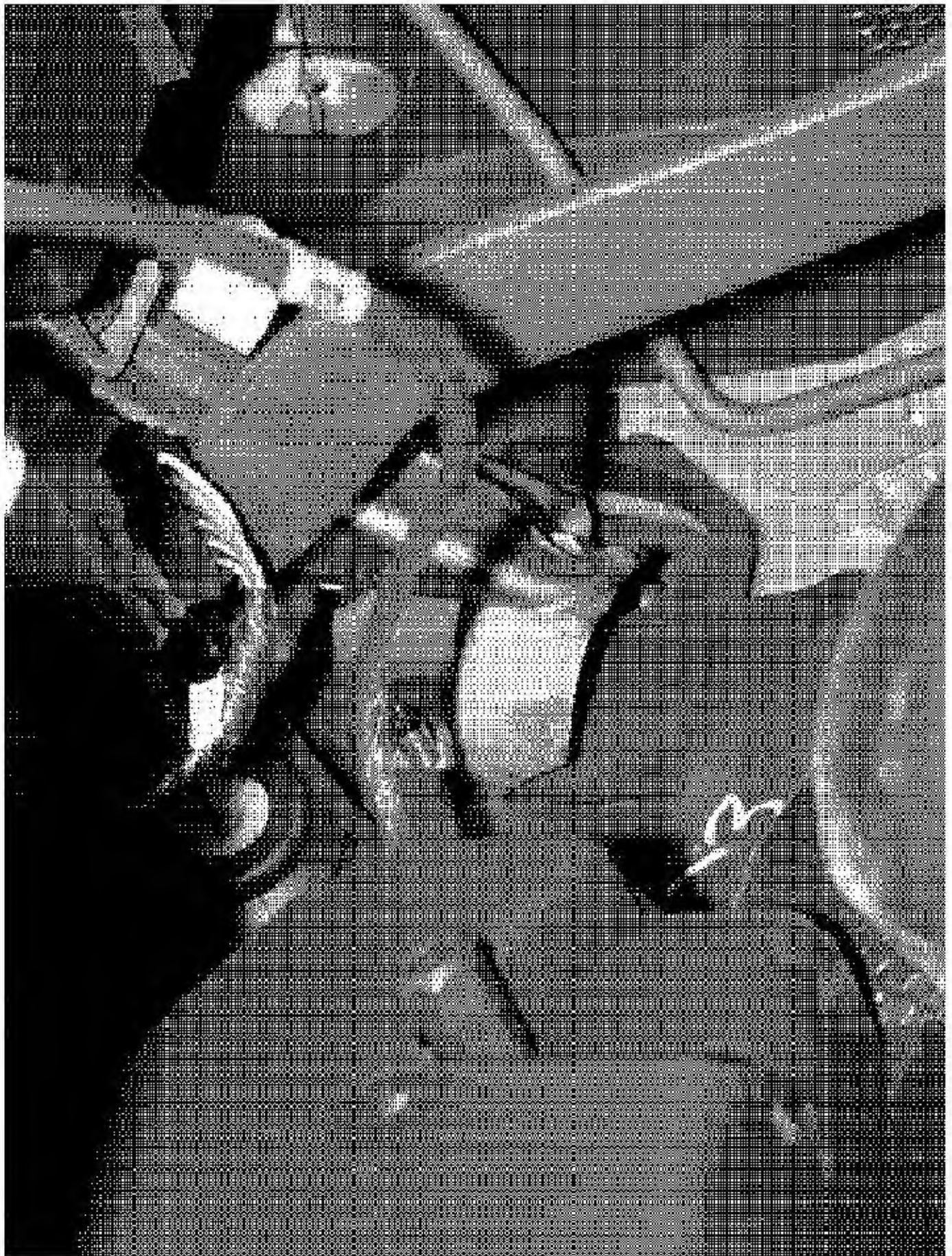


Image 19 Pre-Test Steering Column and Firewall - Interior View





Image 20 Post-Test Steering Column and Firewall - Interior View



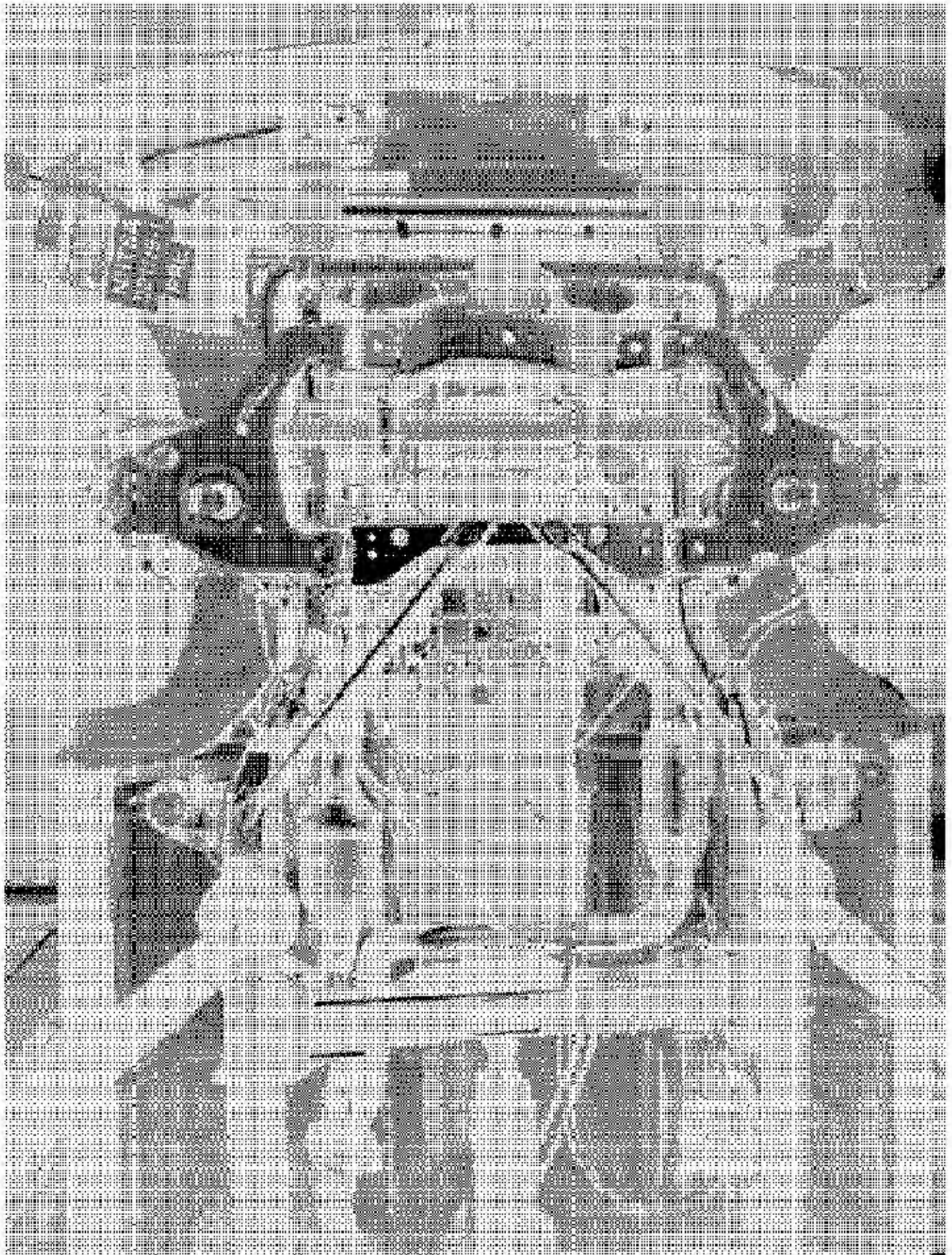


Image 21 Pre-Test Front Underbody View



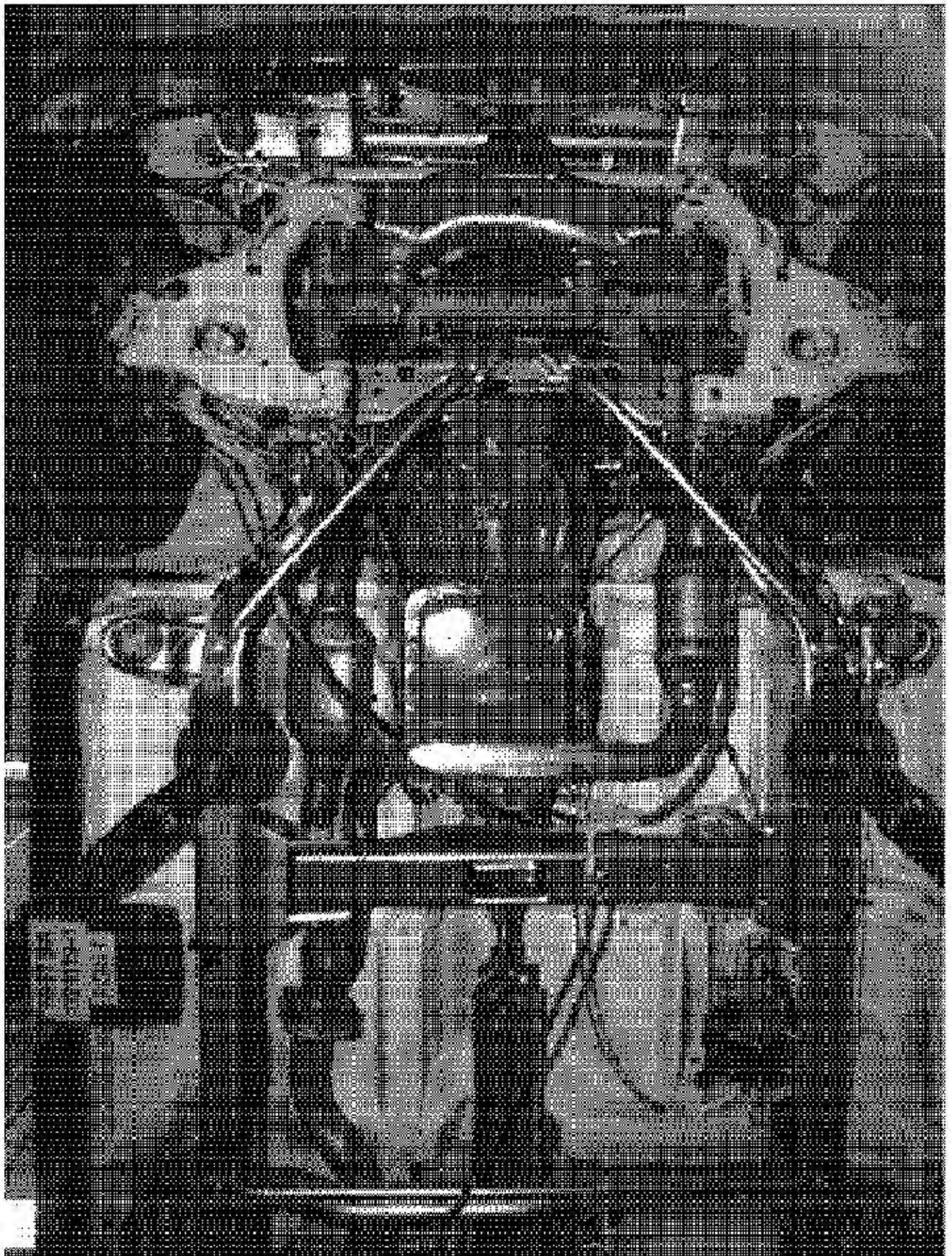


Image 22 Post-Test Front Underbody View



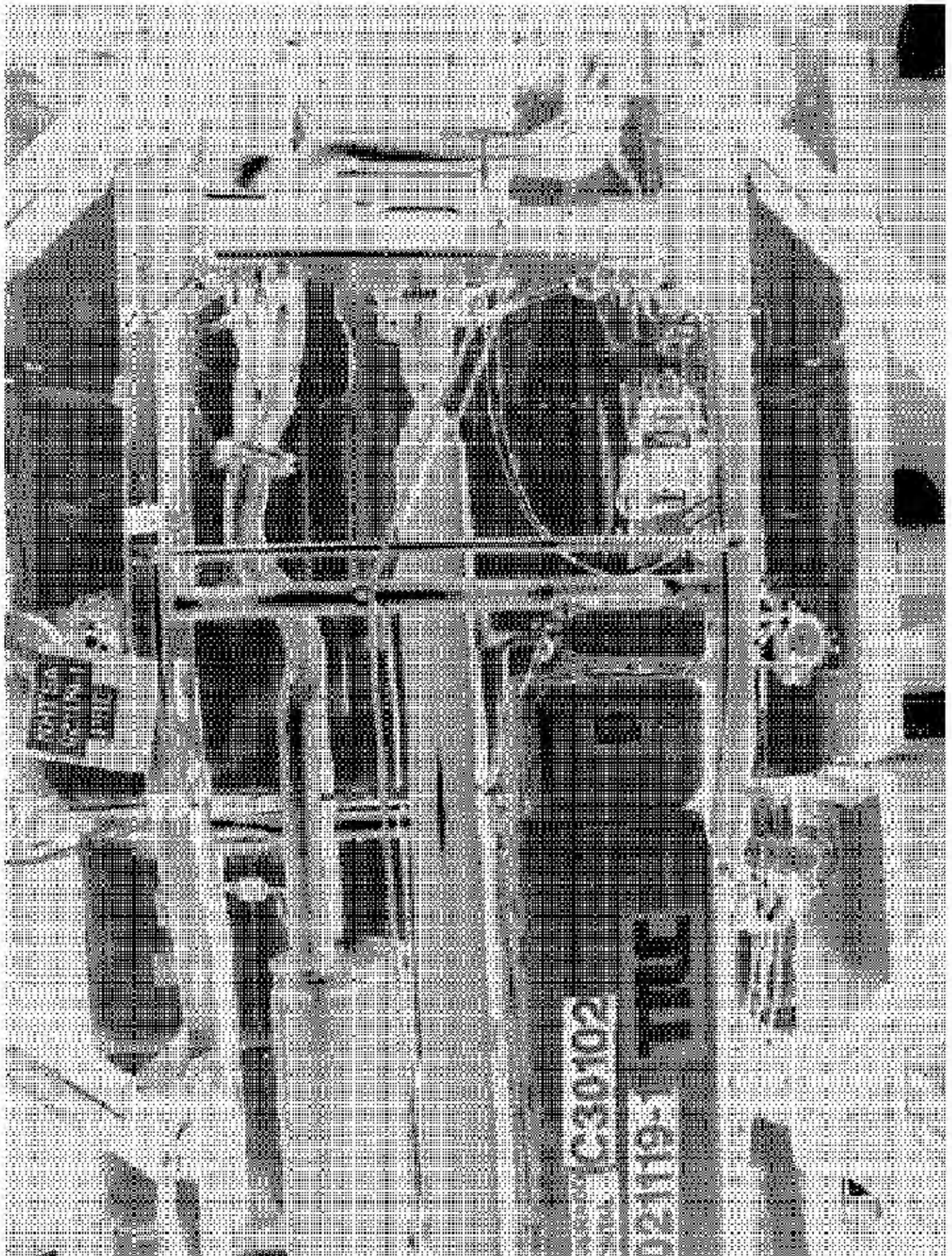


Image 23 Pre-Test Mid Underbody View



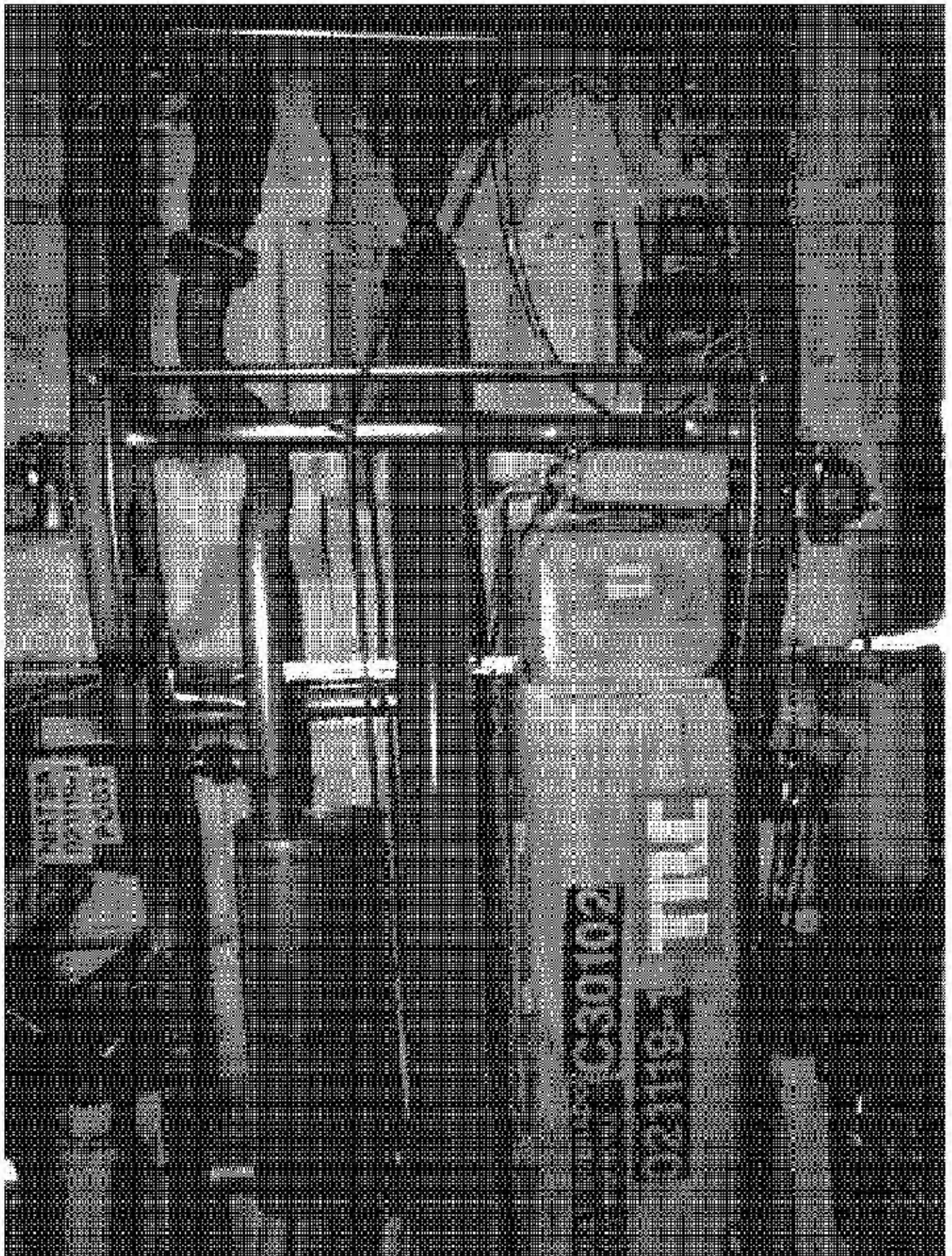


Image 34 Post-Test Mid Underbody View



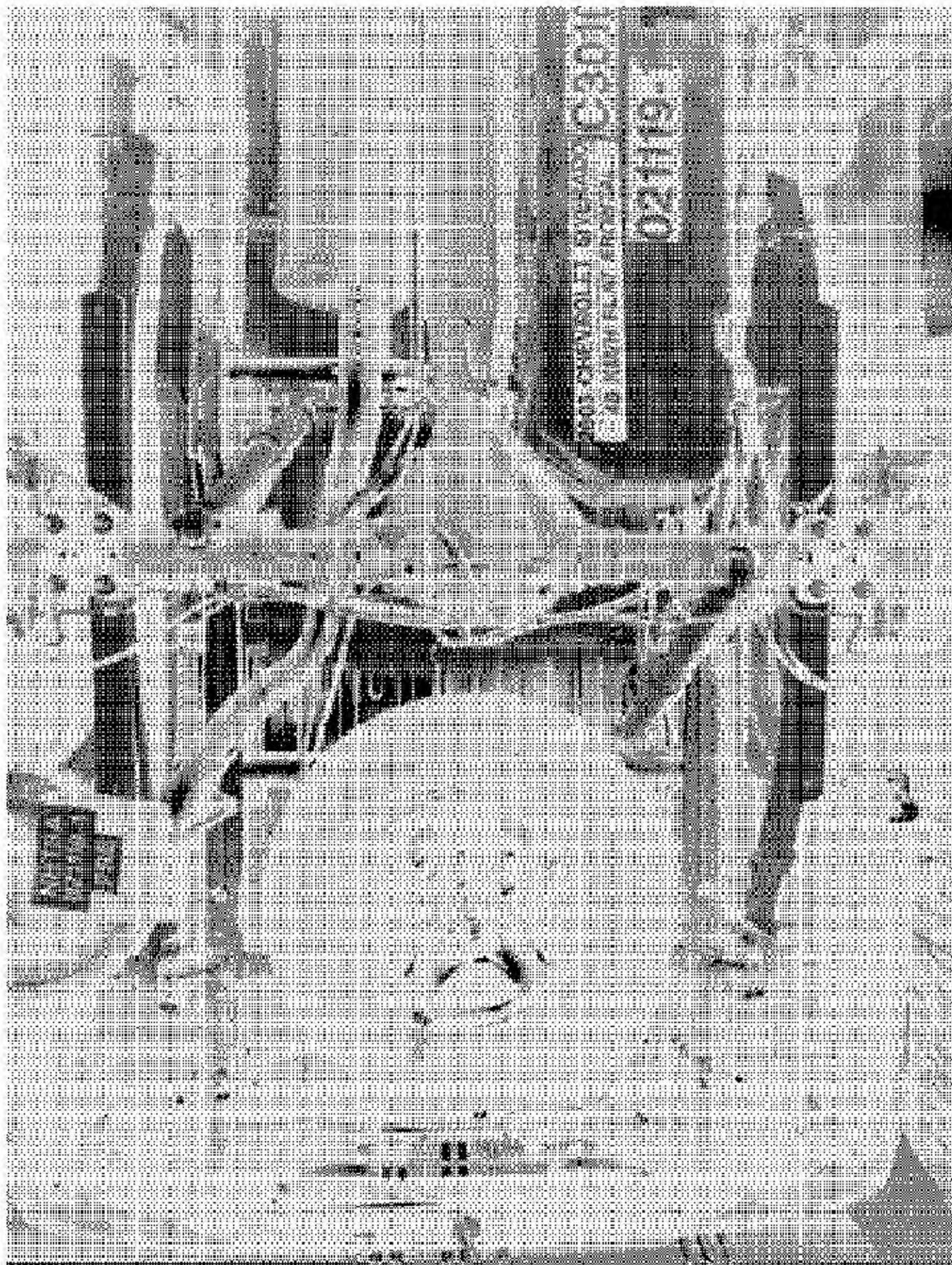


Image 25 Pre-Test Rear Underbody View



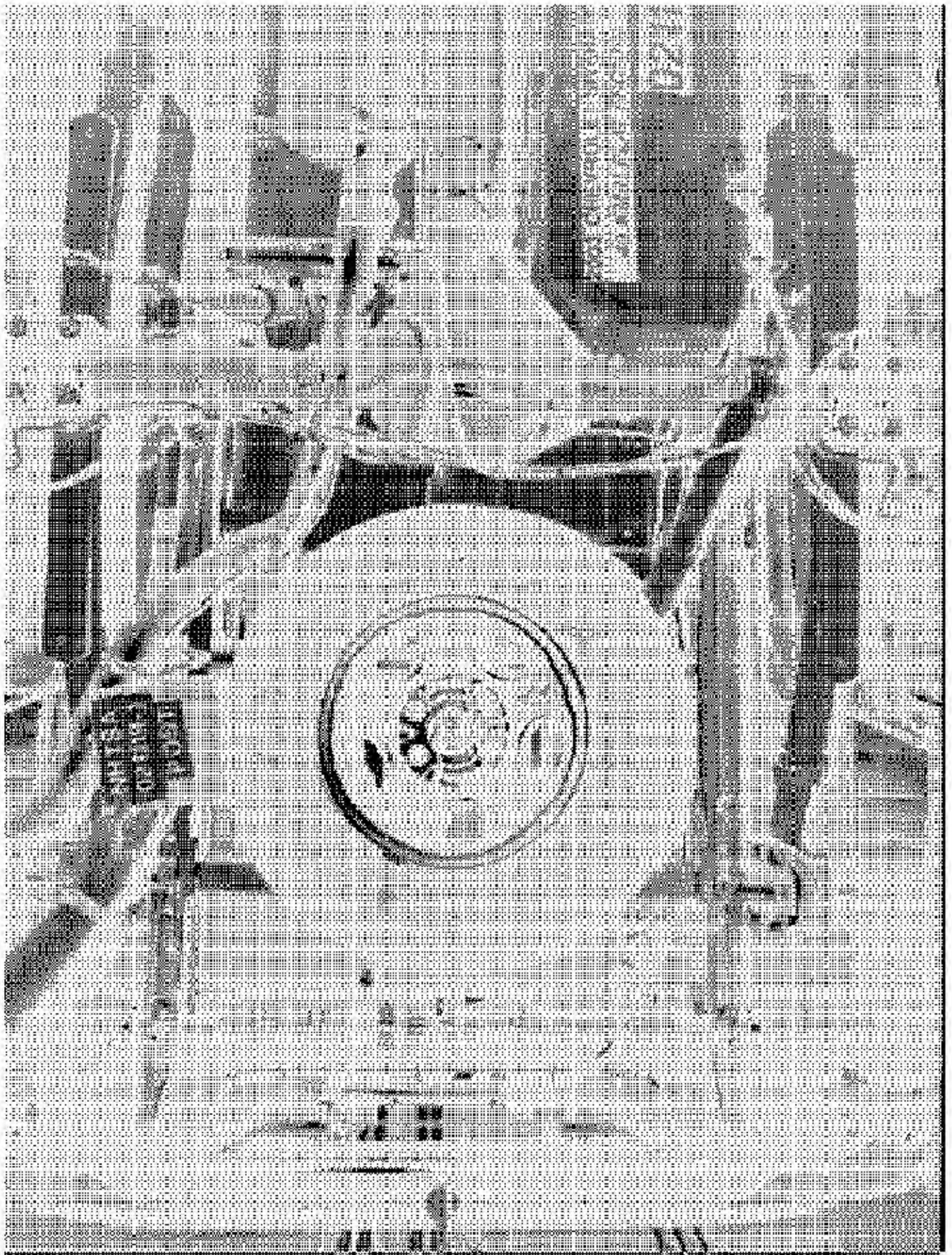


Image 26 Post-Test Rear Underbody View



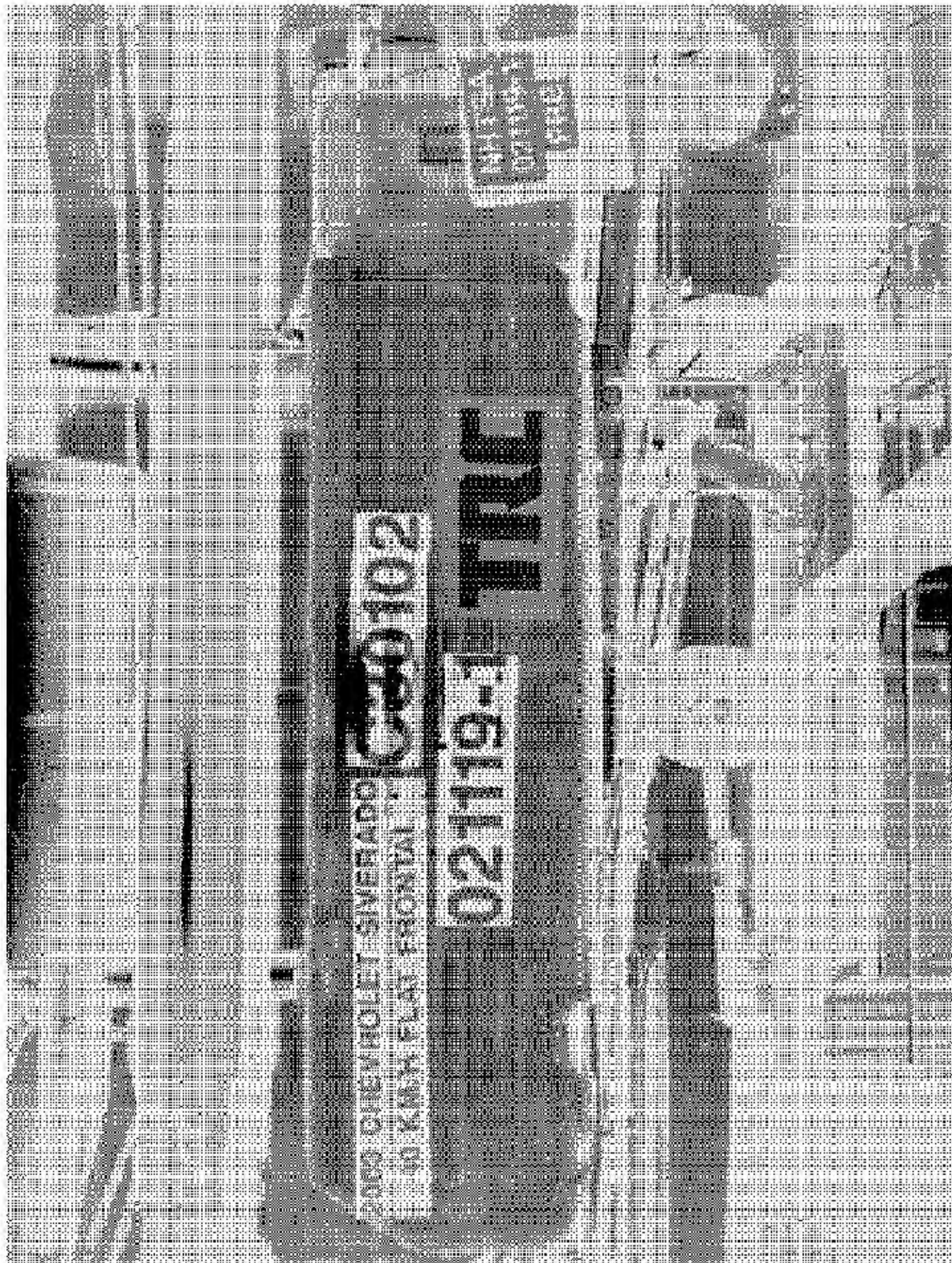


Image 27 Pre-Test Fuel Tank View



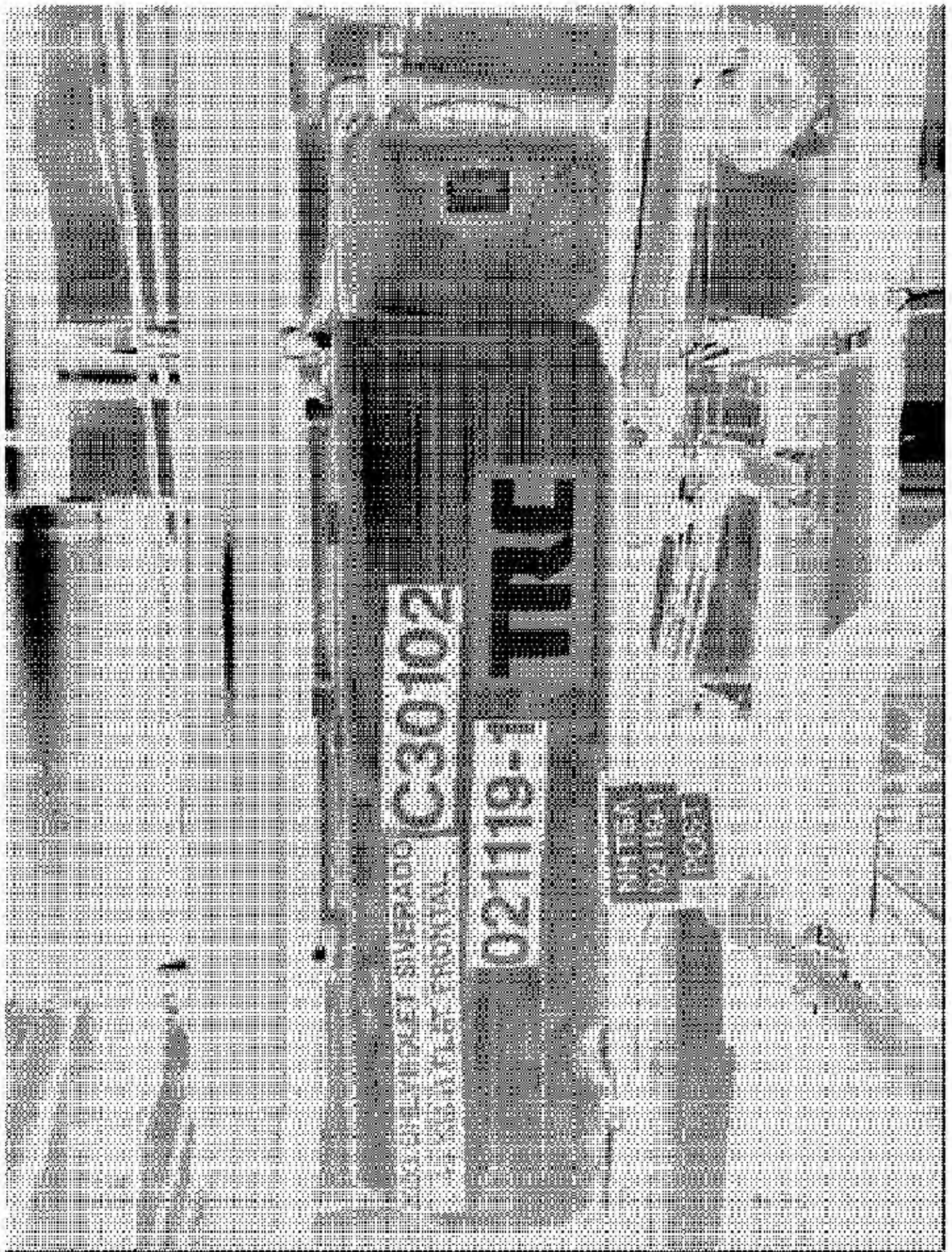


Image 28 Post-Test Fuel Tank View



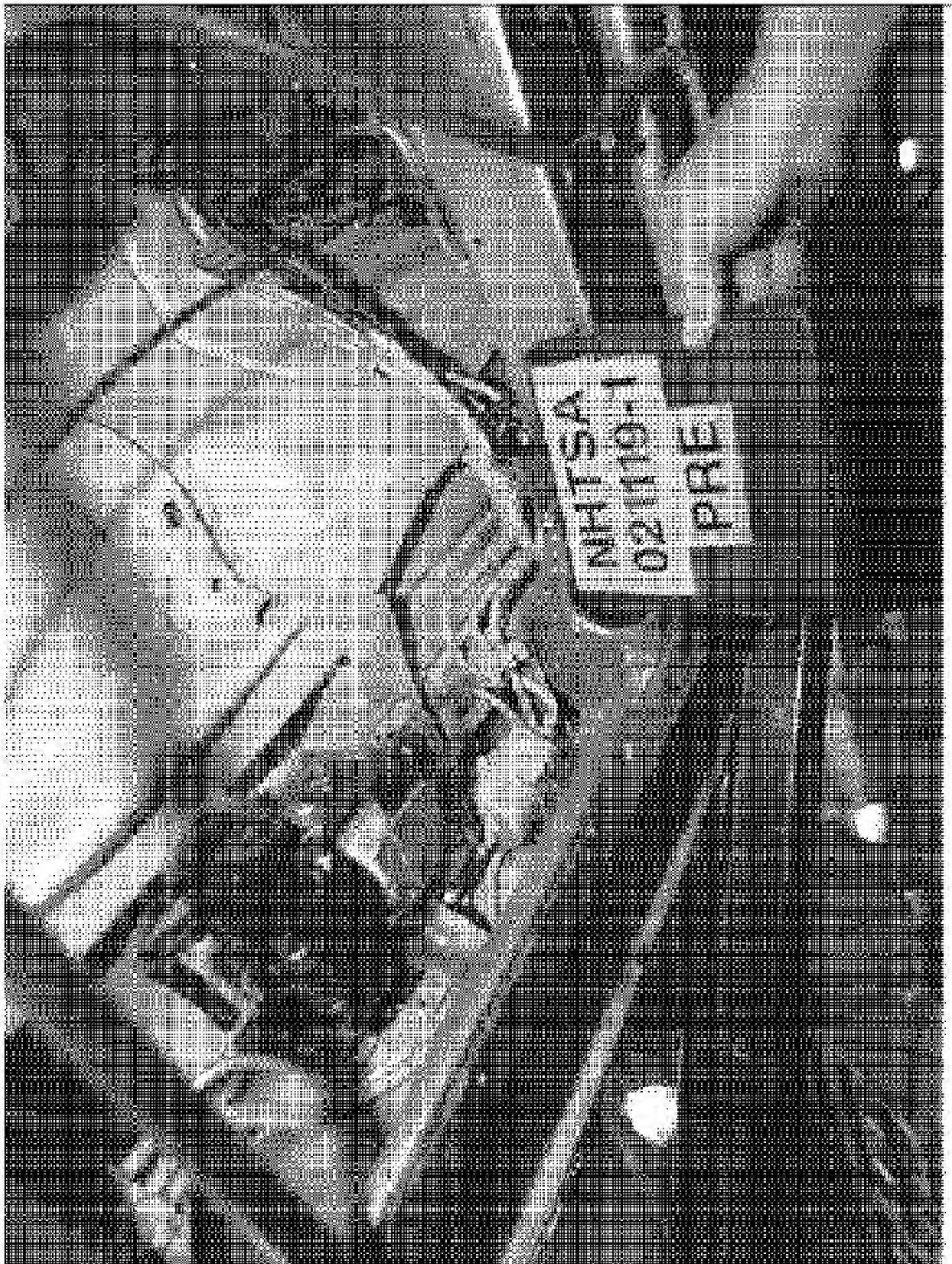


Image 29 Pre-Test Fuel Lines and Filter View



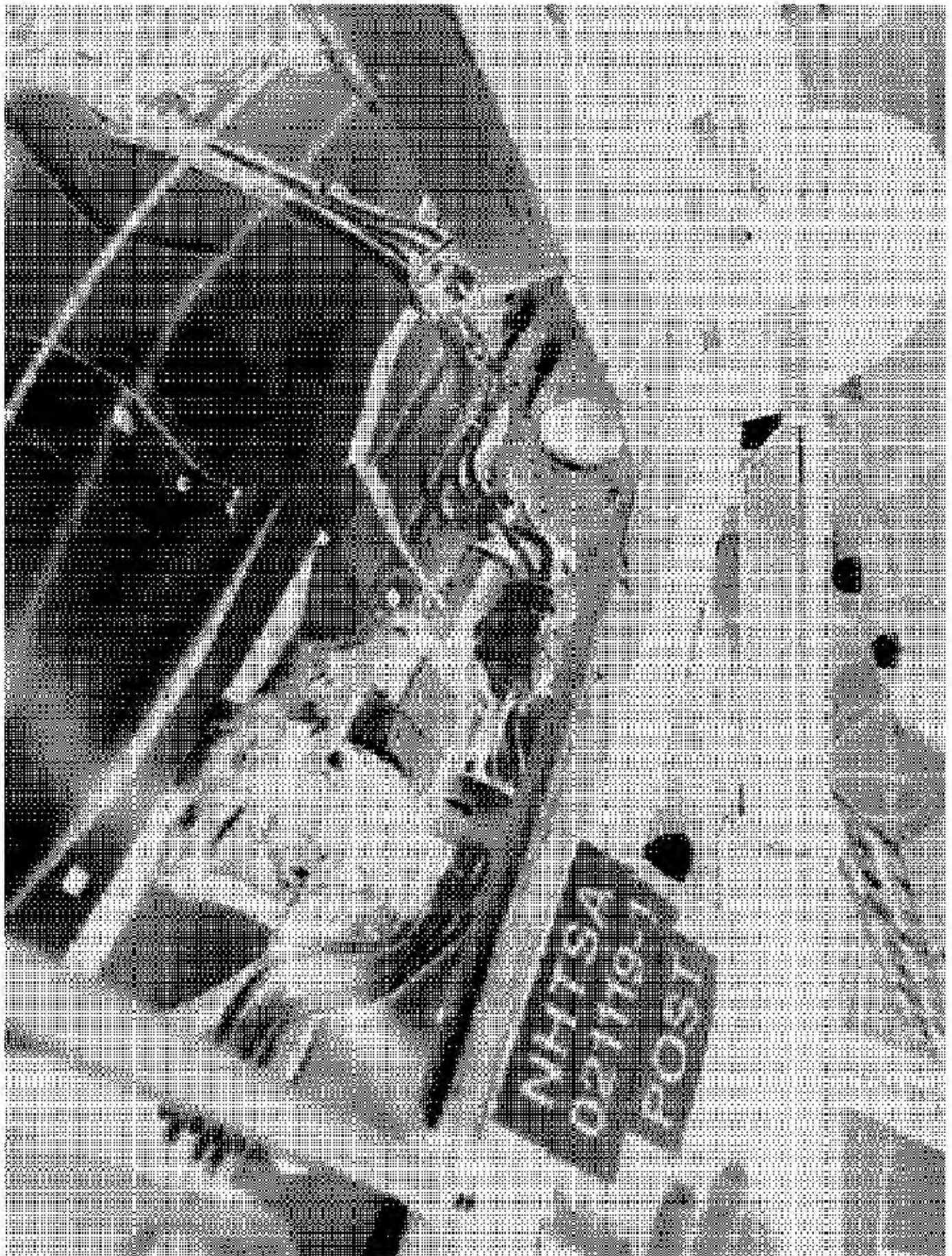


Image 30 Post-Test Fuel Lines and Filter View



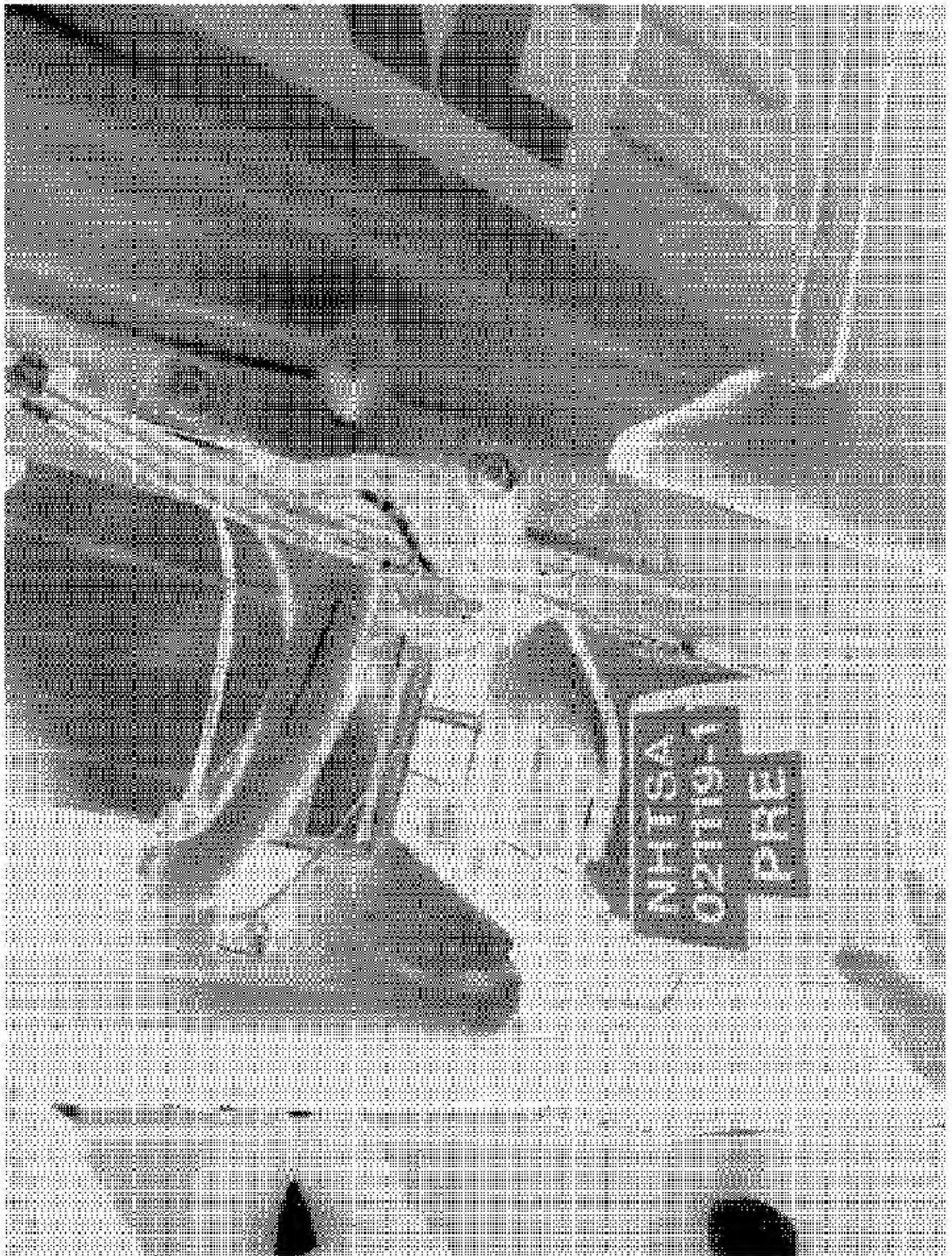


Image 31 Pre-Test Fuel Filler Neck View



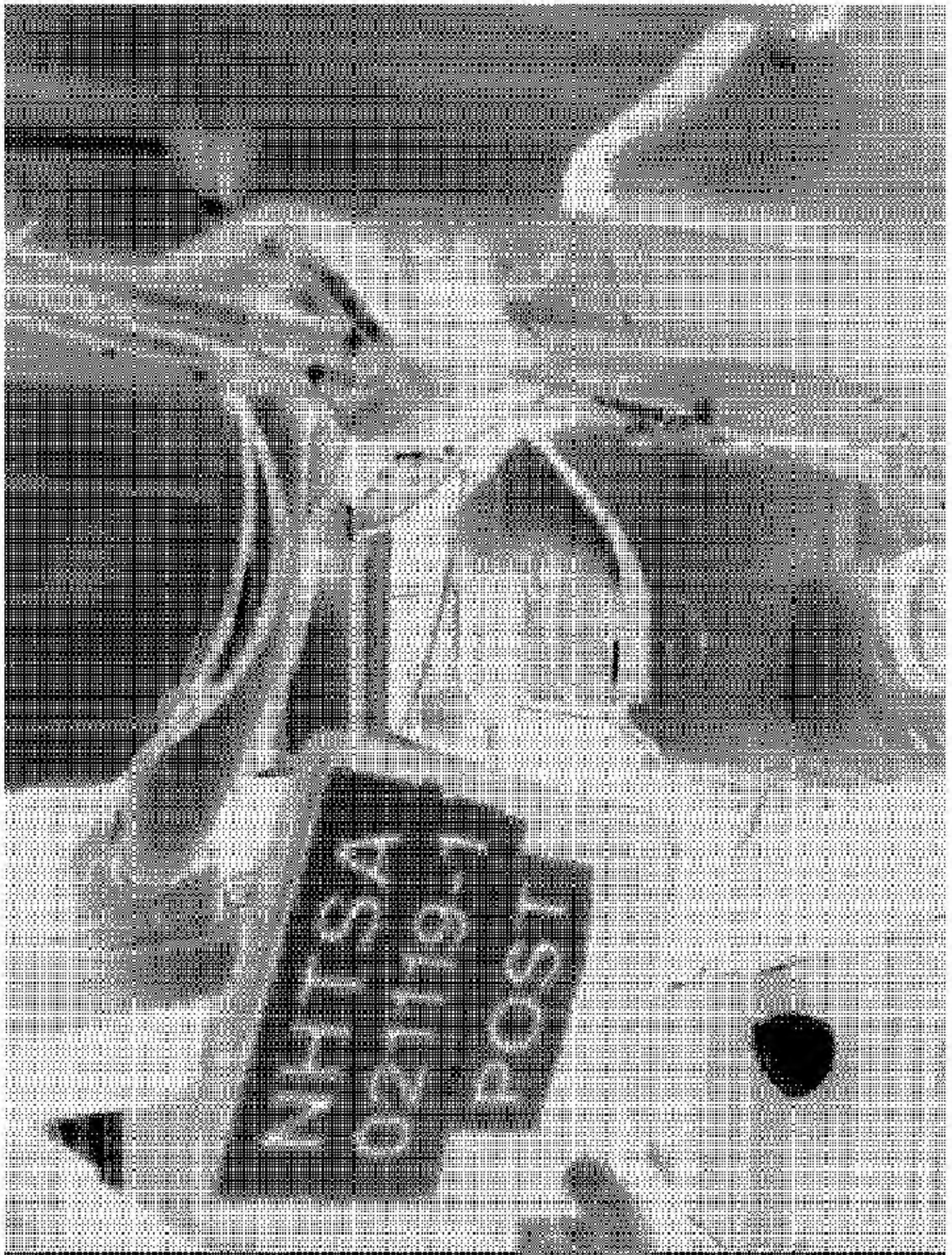


Image 32 Post-Test Fuel Filler Neck View

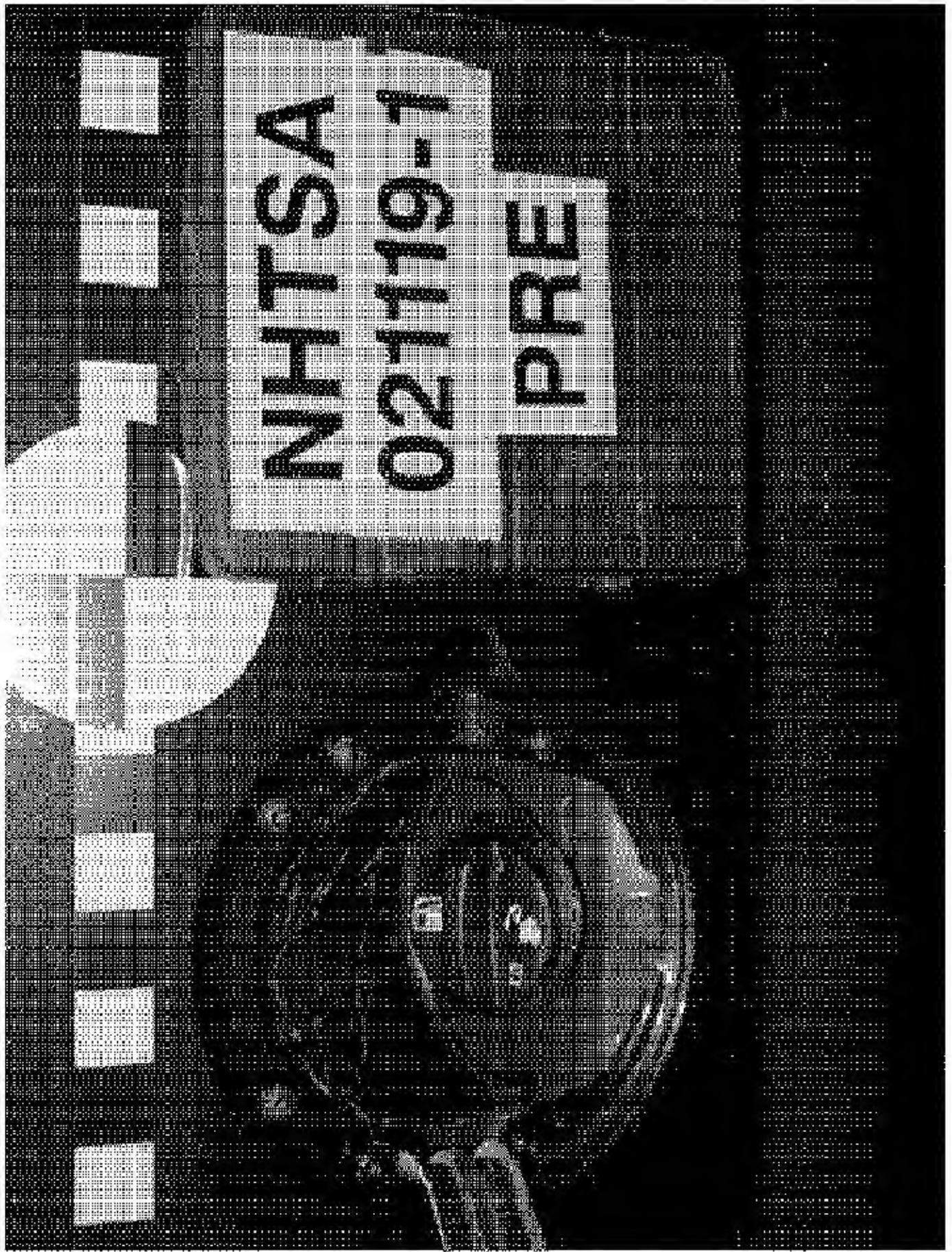


Image 33 Pre-Test Fuel Filler Cap View



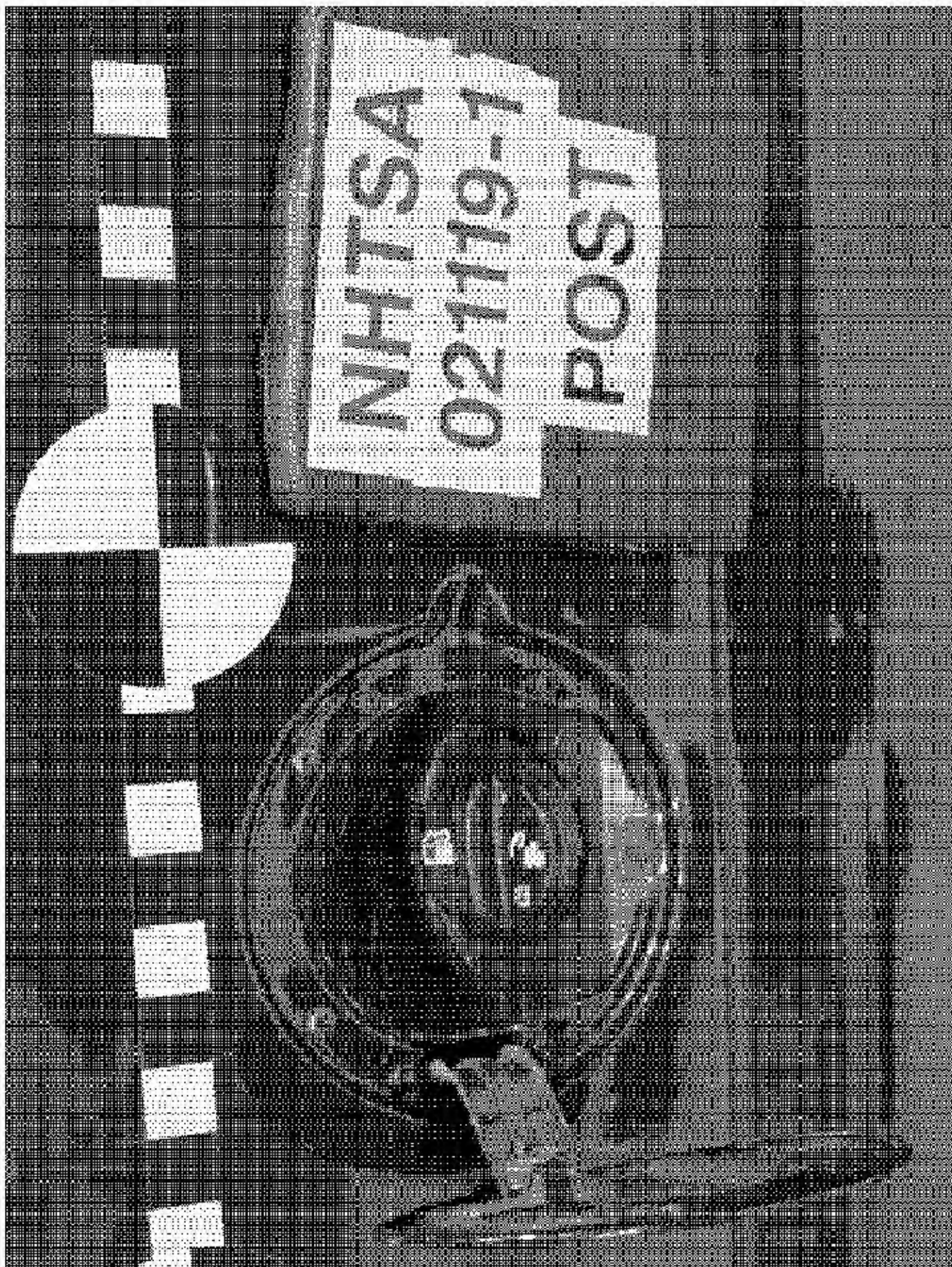


Image 34 Post-Test Fuel Filler Cap View



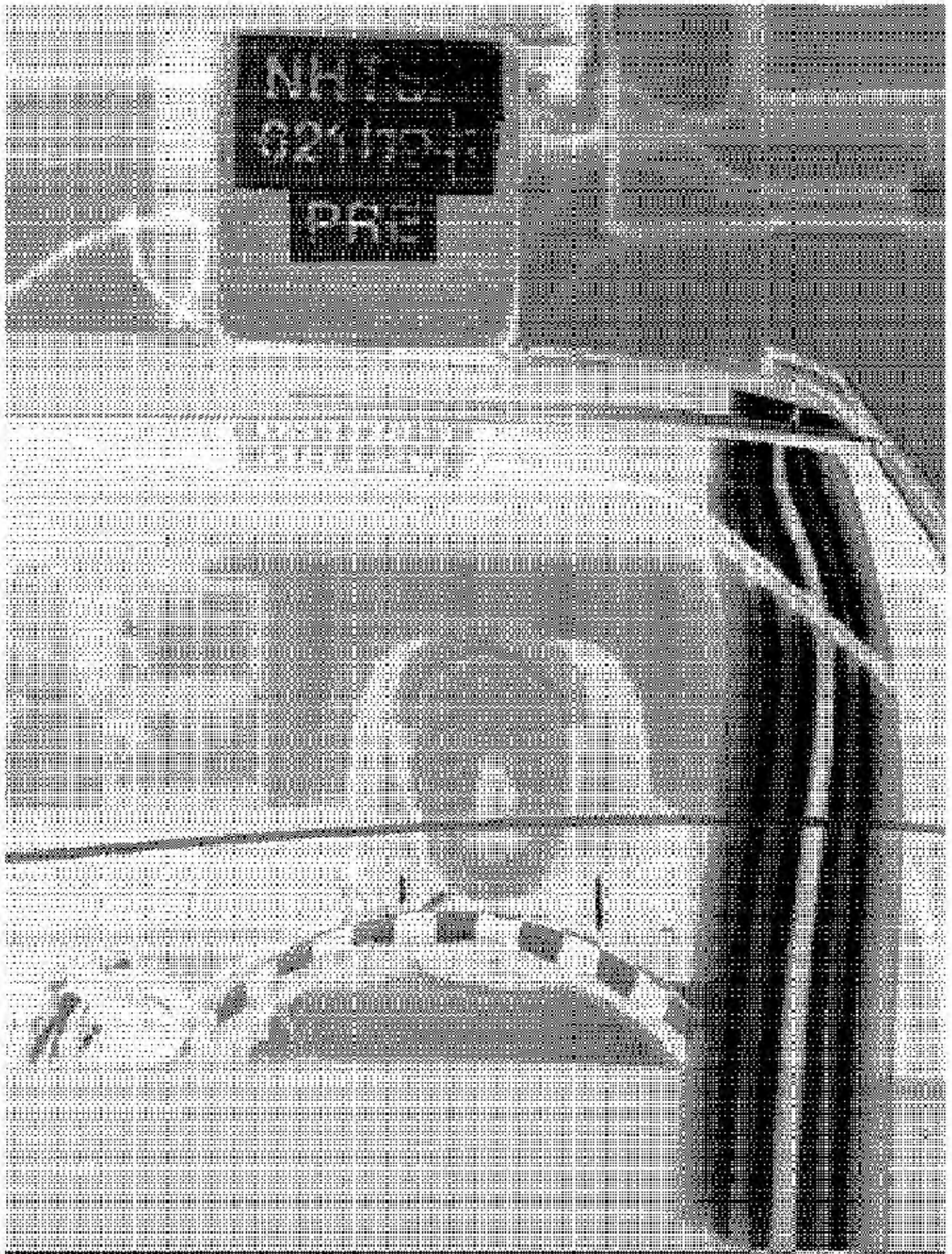


Image 35 Pre-Test Driver Dummy Front View



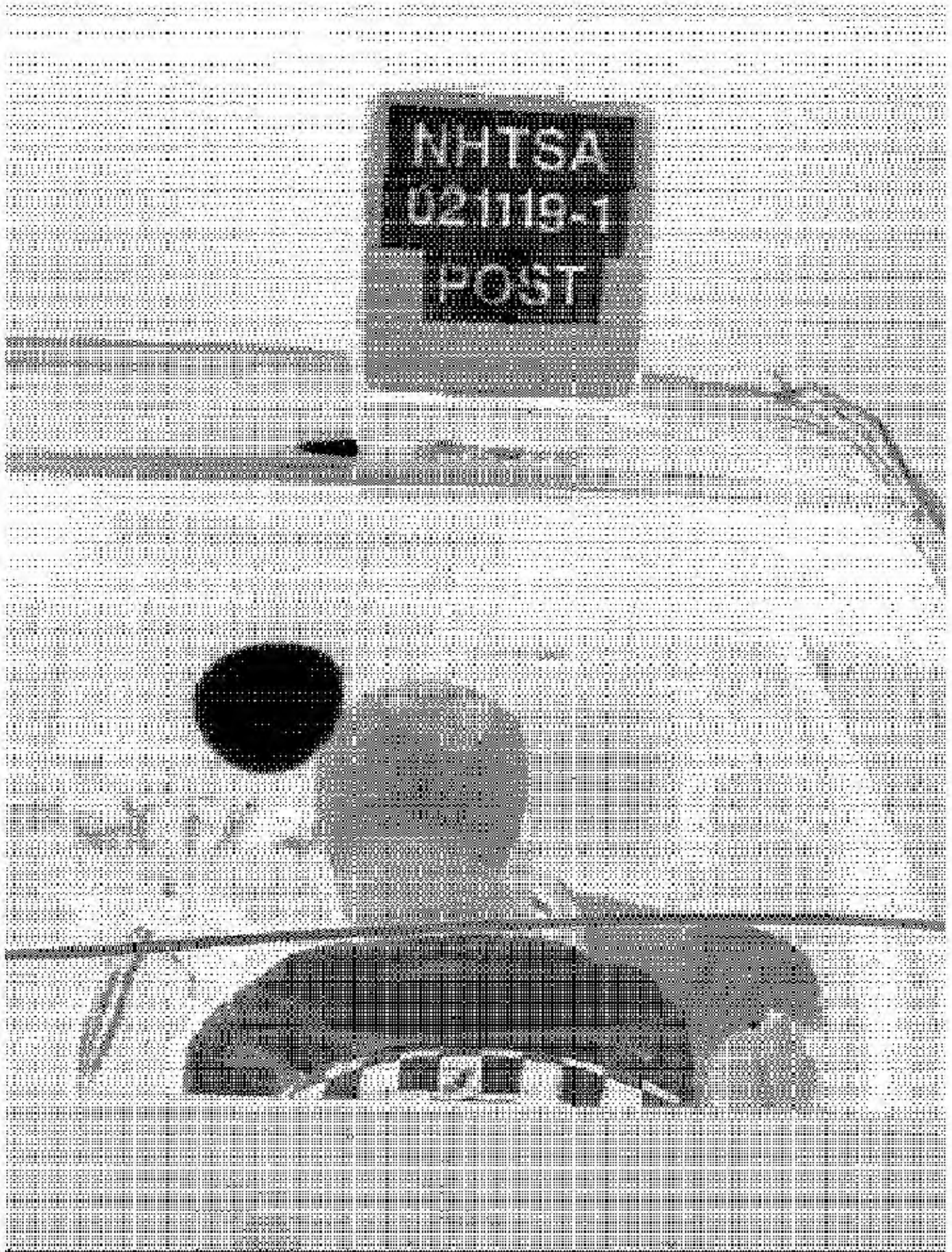


Image 36 Post-Test Driver Dummy Front View



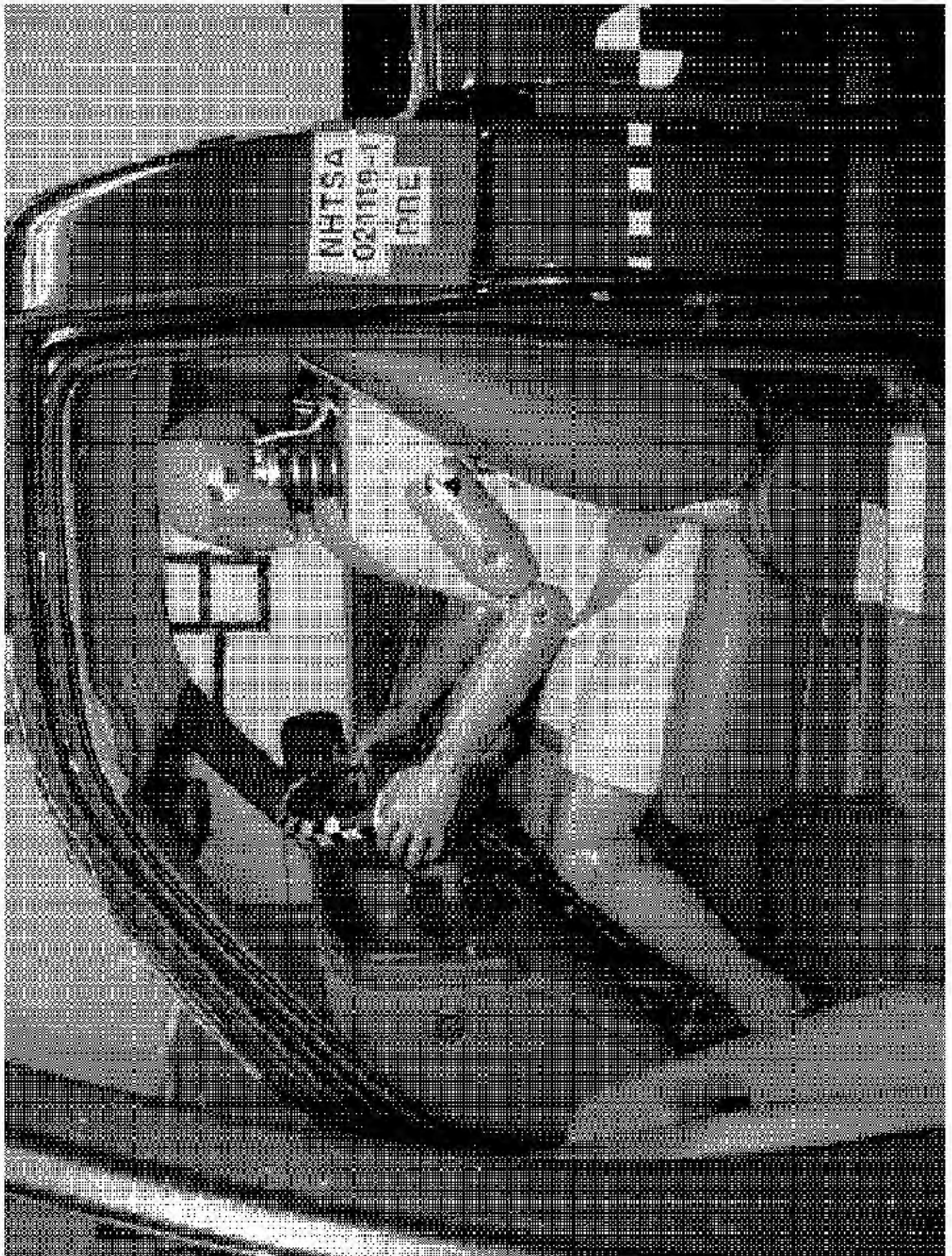


Image 37 Pre-Test Driver Dummy Position View



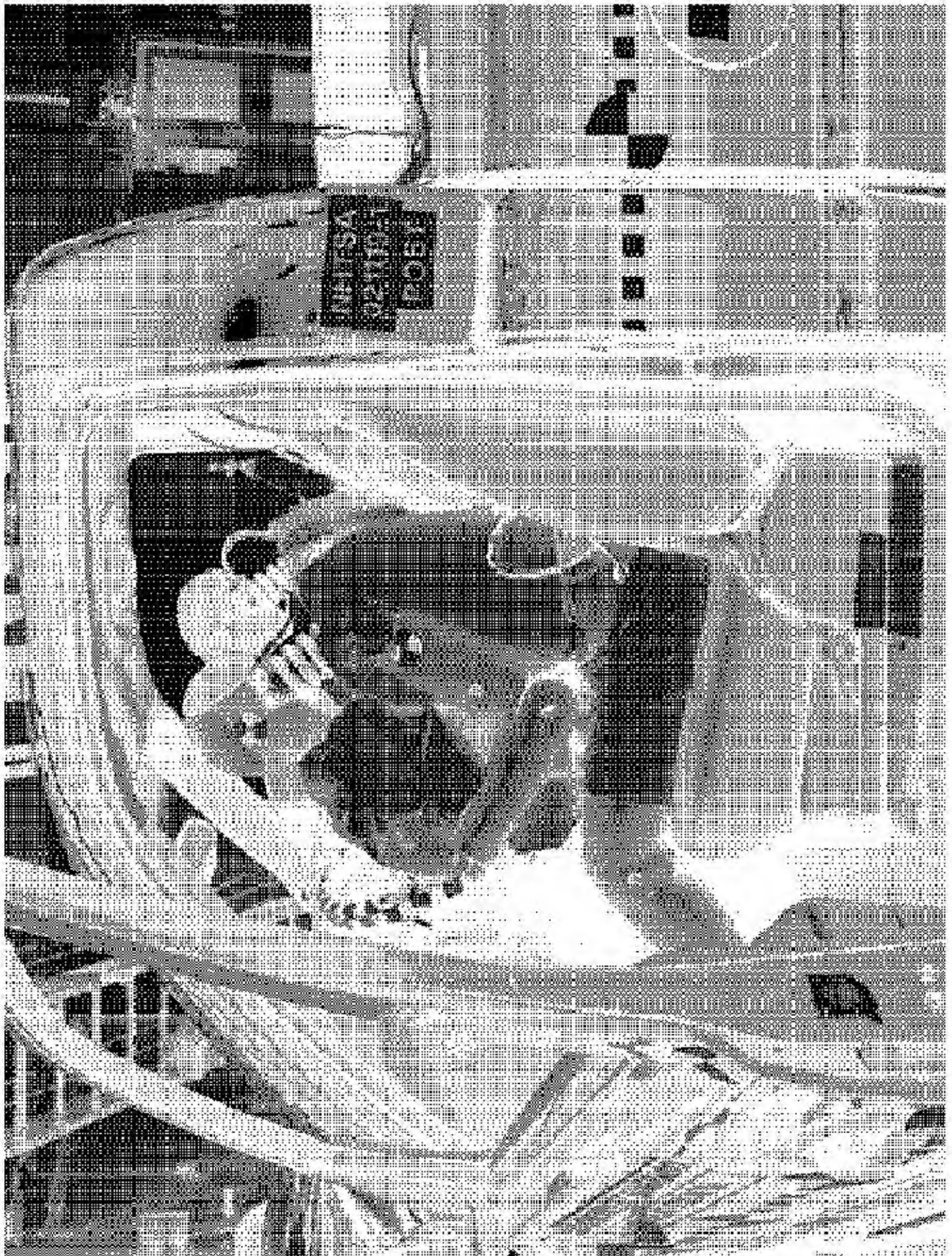


Image 38 Post-Test Driver Dummy Position View



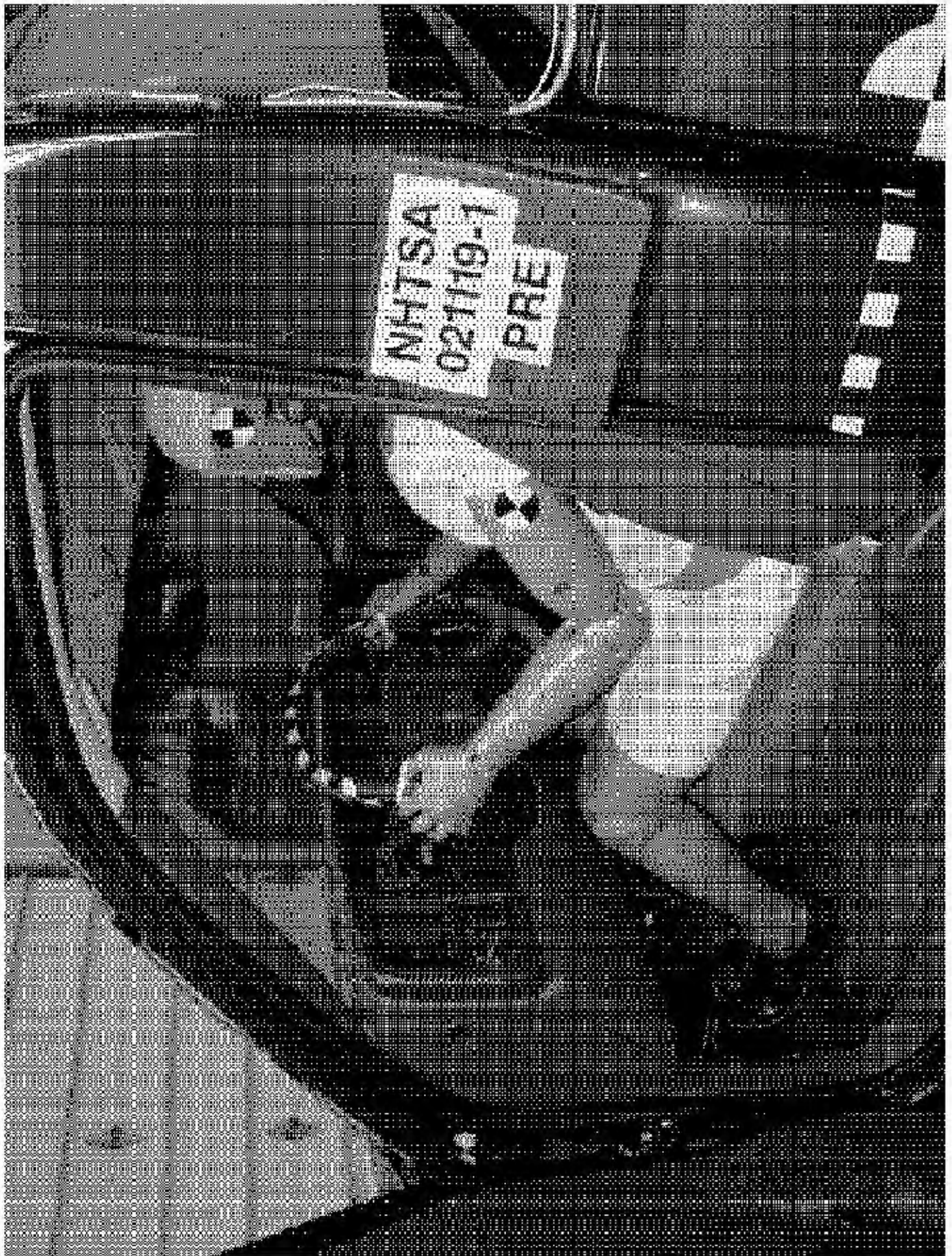
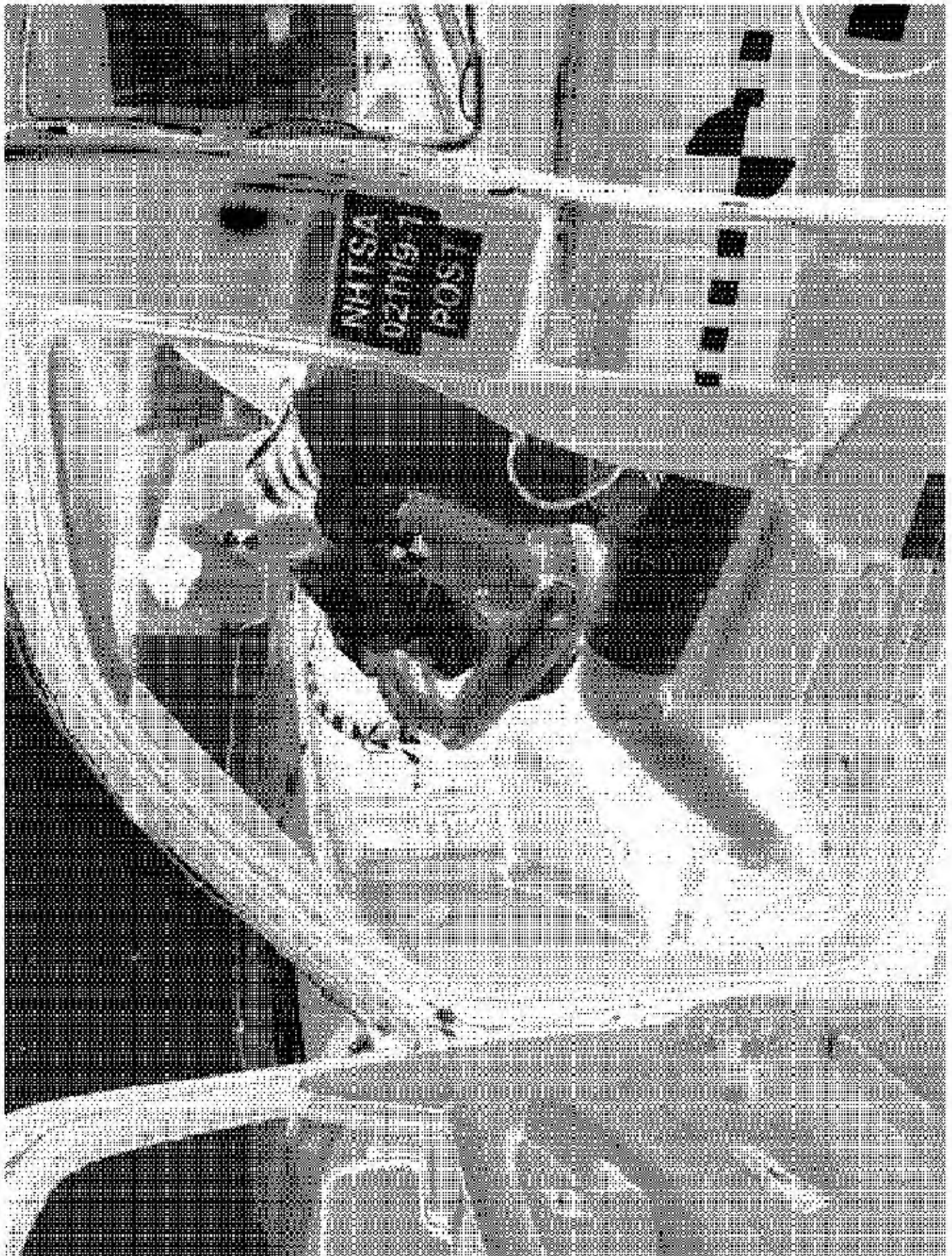


Image 39 Pre-Test Driver Dummy & Vehicle Intrusion View





**Image 40 Post-Test Driver Dummy & Vehicle Intrusion View**



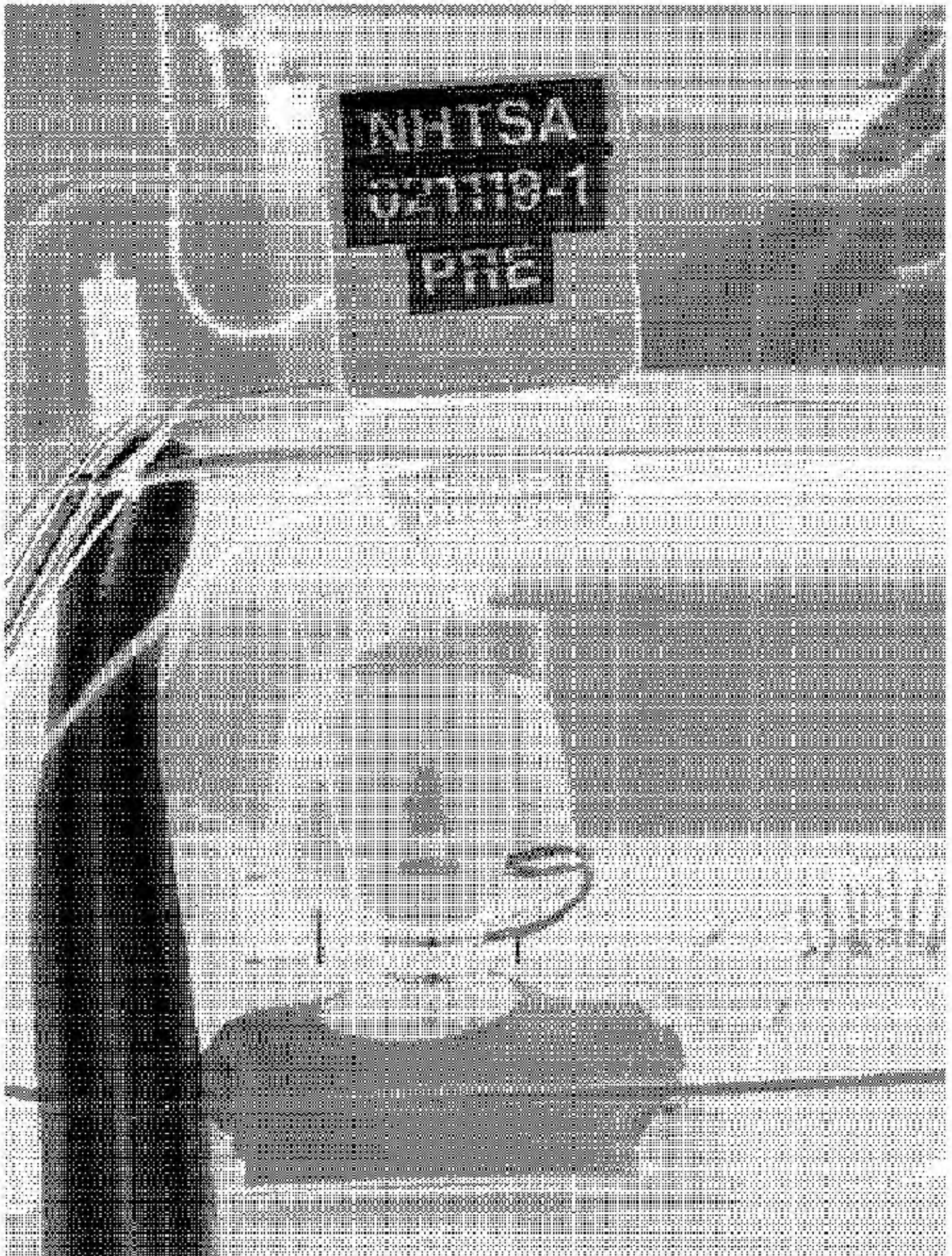


Image 41 Pre-Test Passenger Dummy Front View





Image 42 Post-Test Passenger Dummy Front View





Image 43 Pre-Test Passenger Dummy Position View



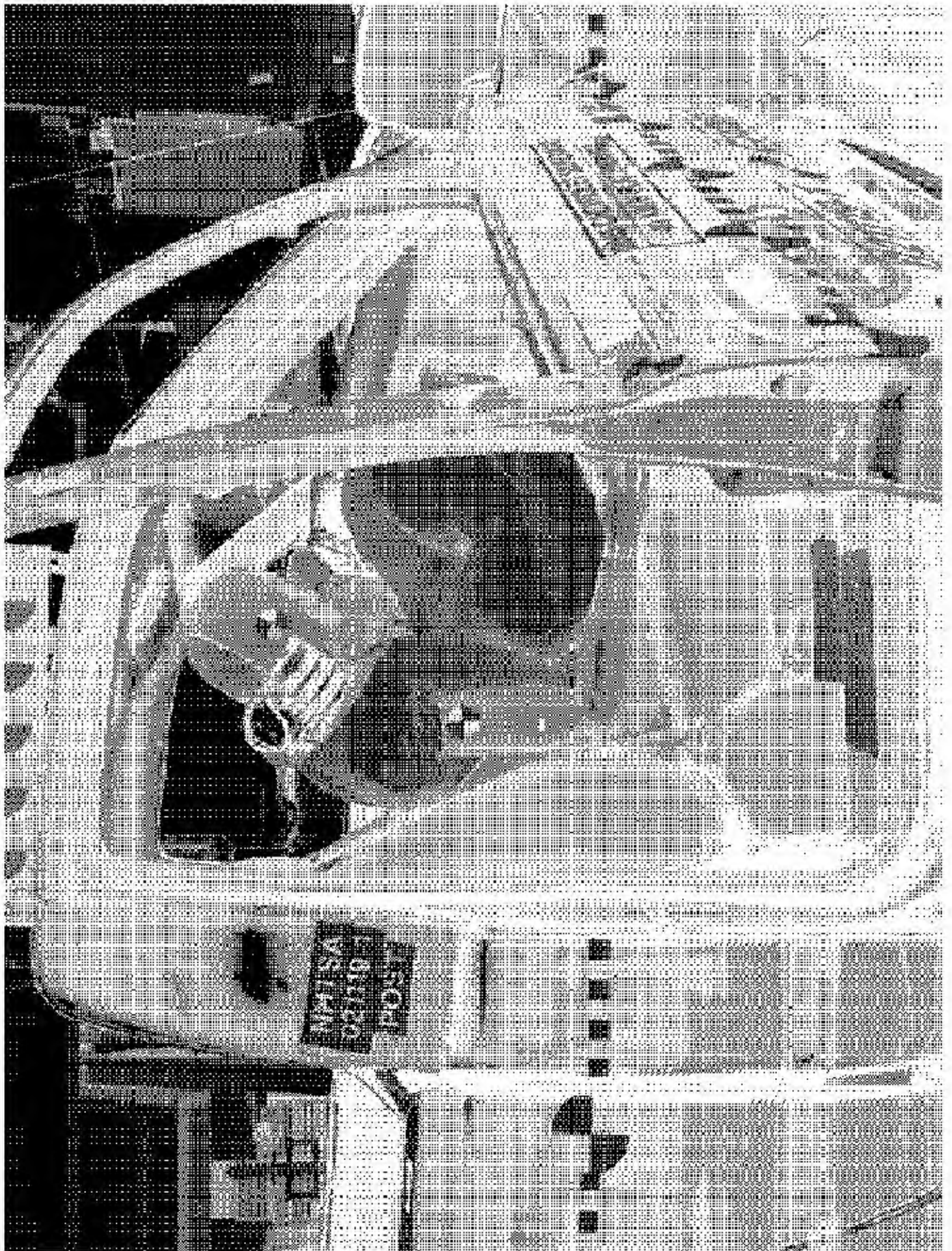


Image 44 Post-Test Passenger Dummy Position View



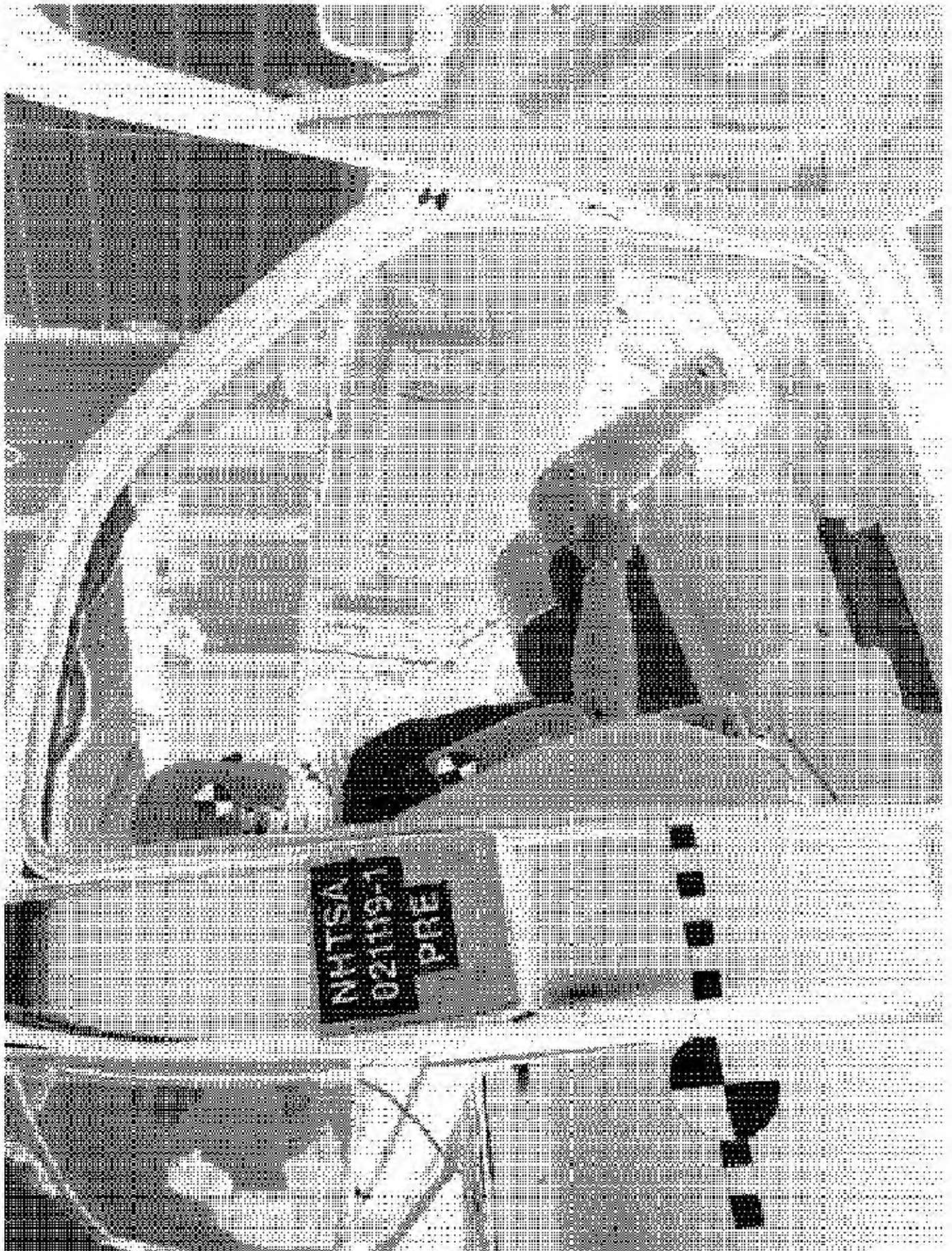


Image 45 Pre-Test Passenger Dummy & Vehicle Intrusion View



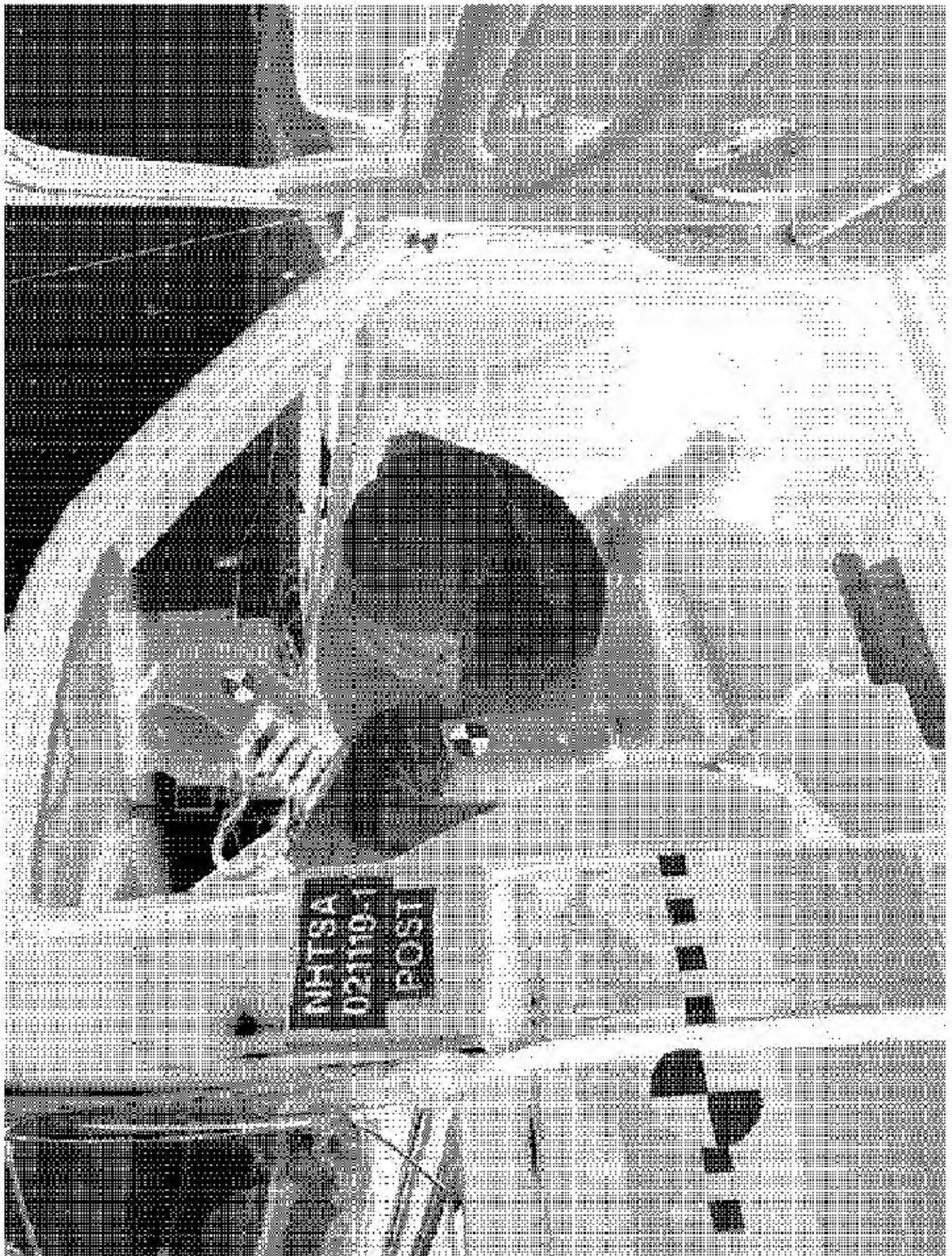


Image 46 Post-Test Passenger Dummy & Vehicle Intrusion View



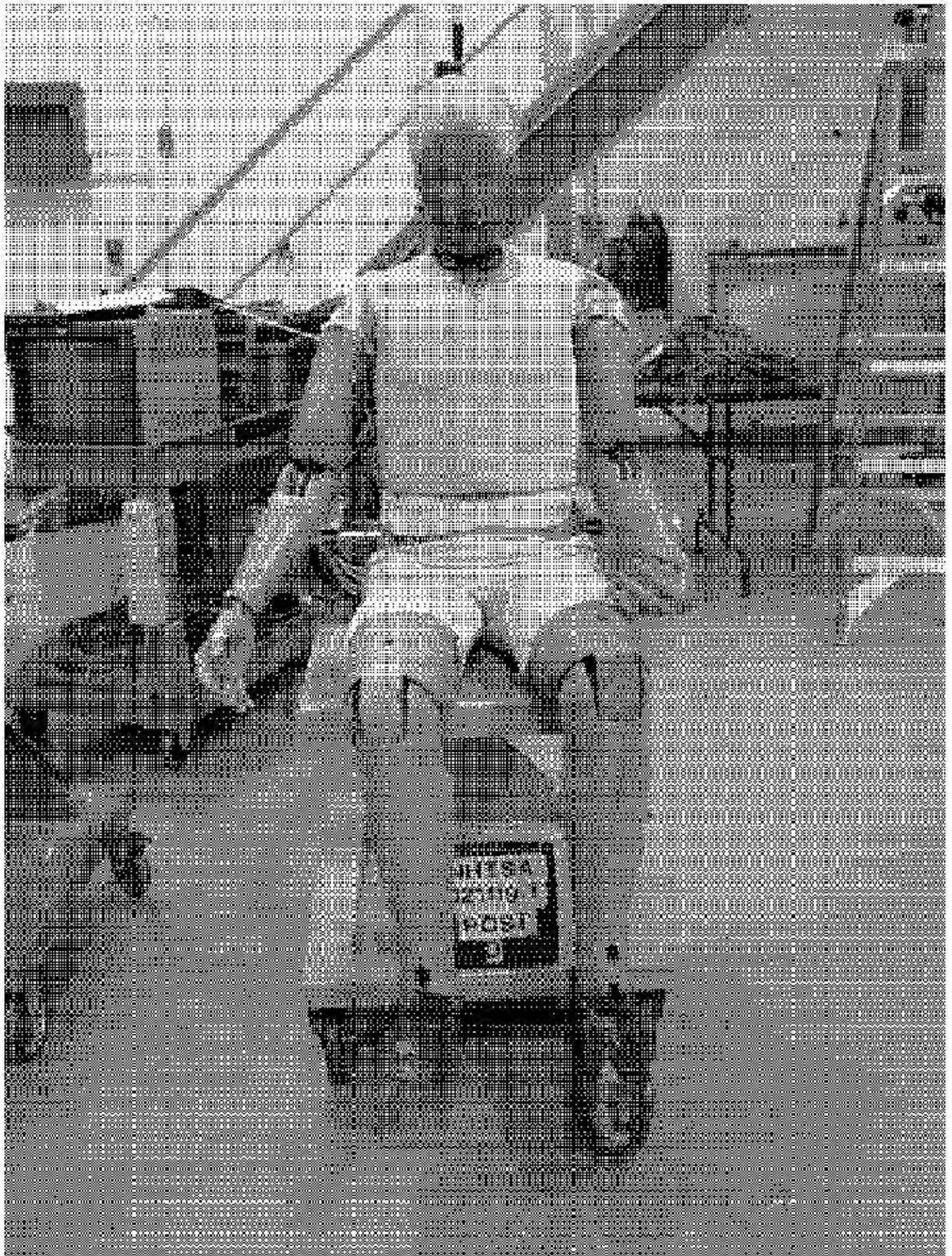


Image 47 Post-Test Driver Dummy View



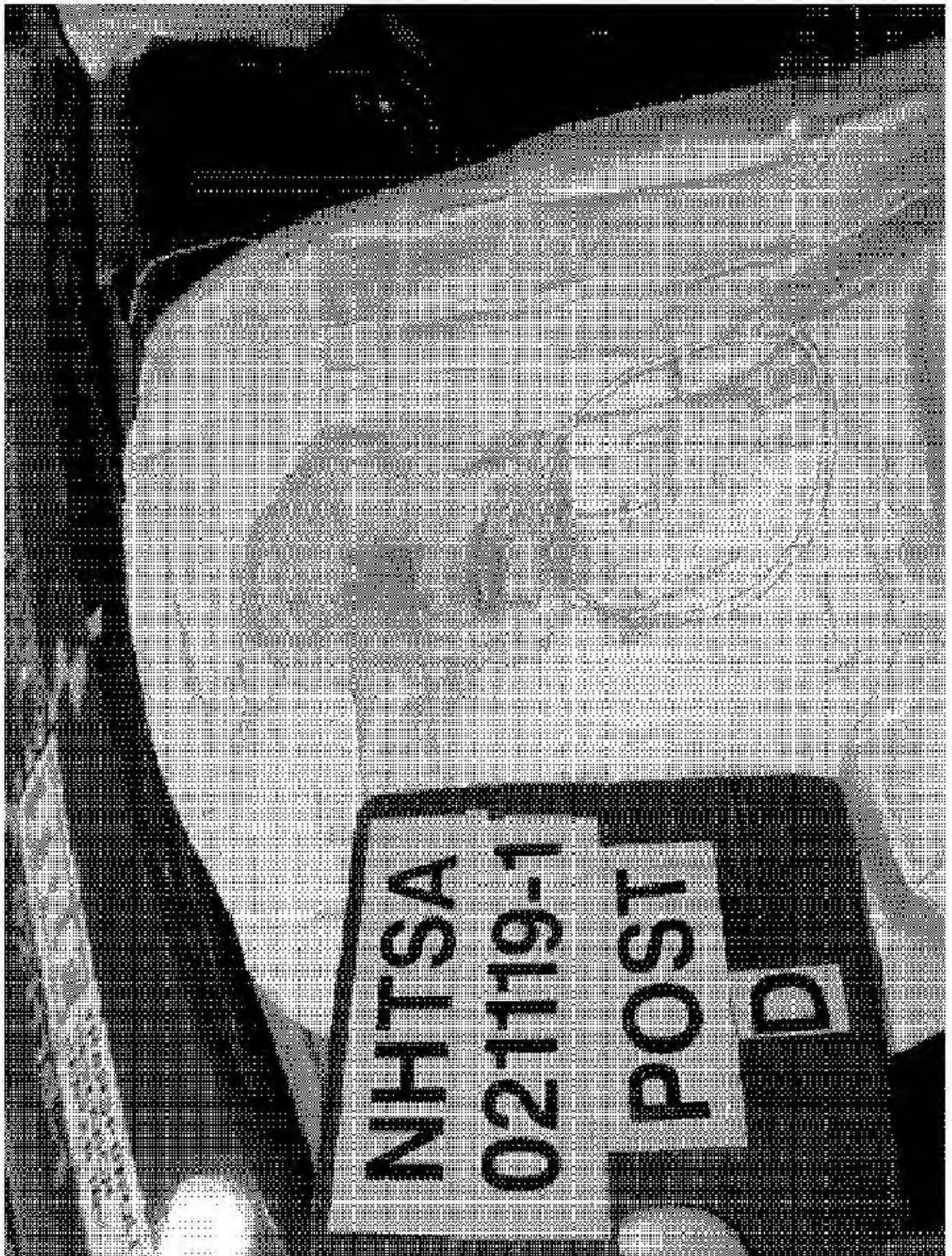


Image 48 Post-Test Driver Dummy Head Contact - View 1



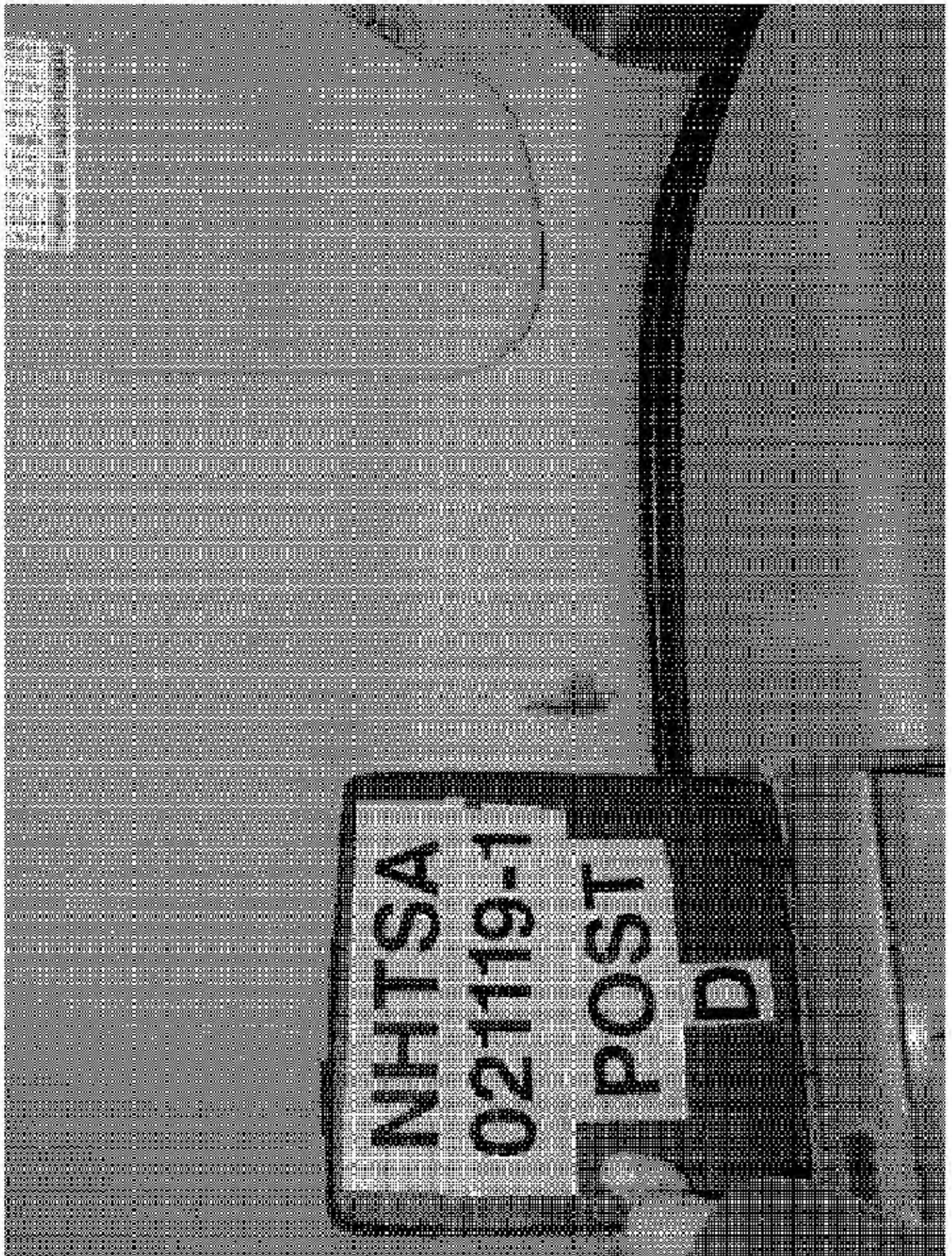


Image 49 Post-Test Driver Dummy Head Contact - View 2





Image 50 Pre-Test Driver Dummy Knee Bolster View



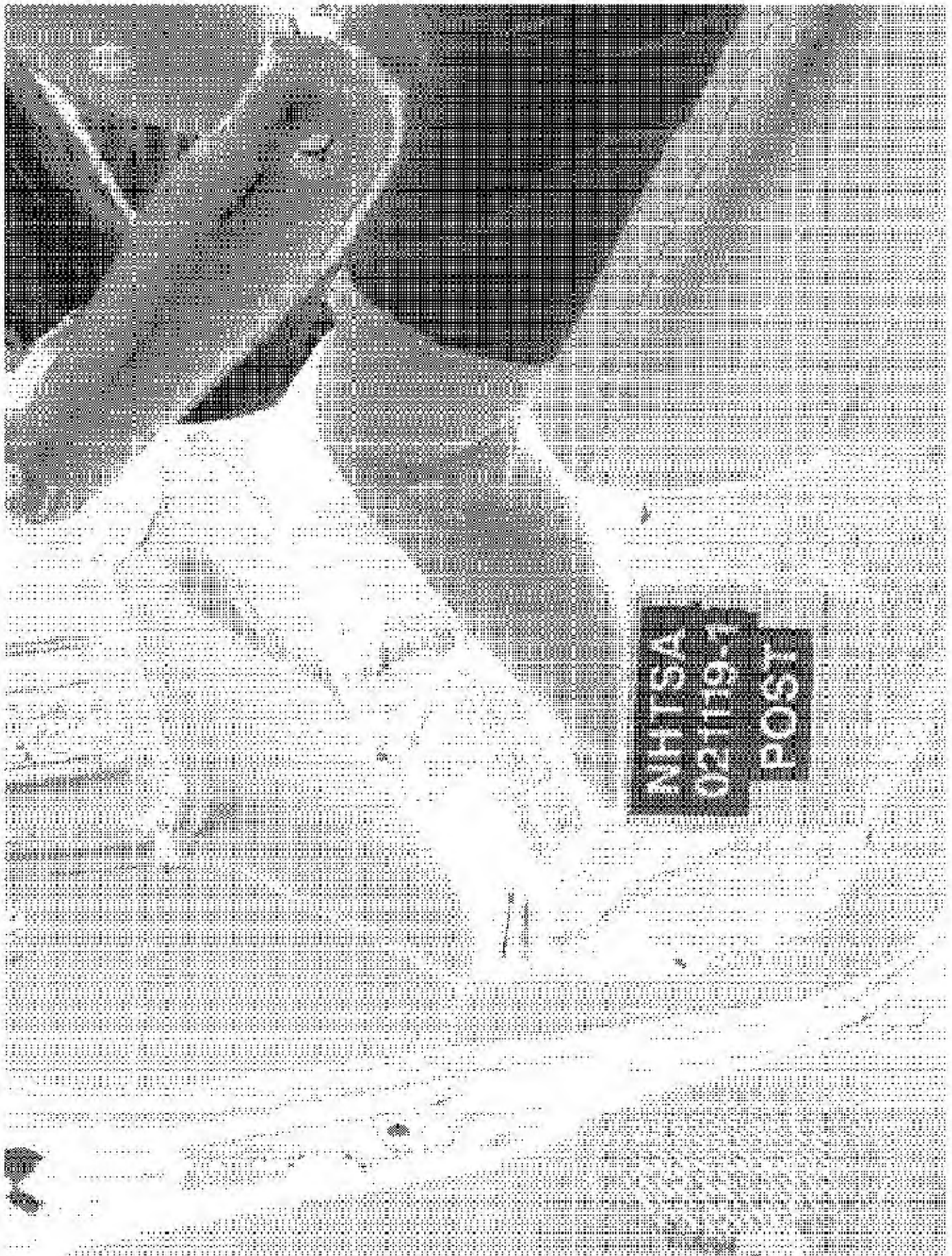


Image 51 Post-Test Driver Dummy Knee Contact - View 1

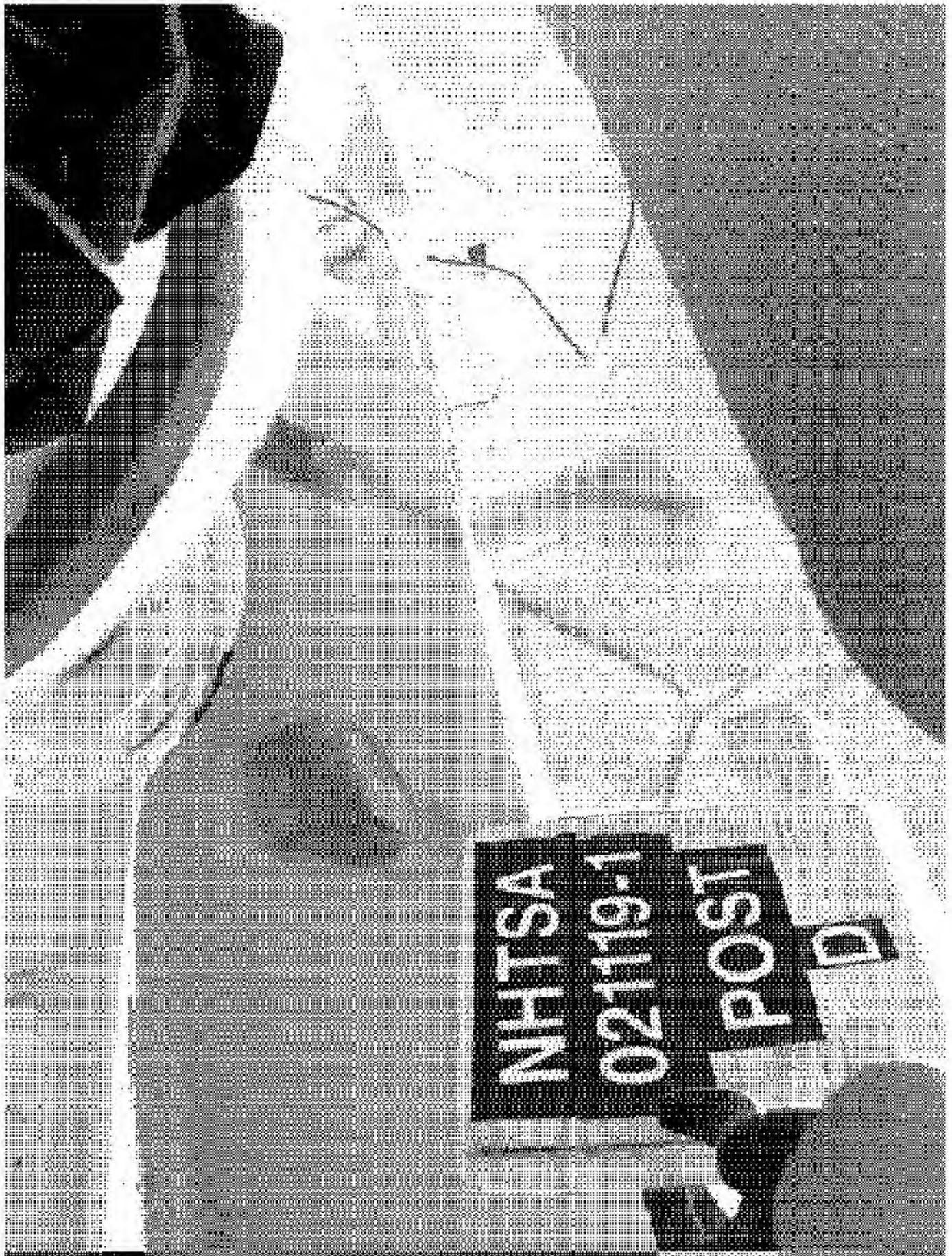


Image 52 Post-Test Driver Dummy Knee Contact - View 2



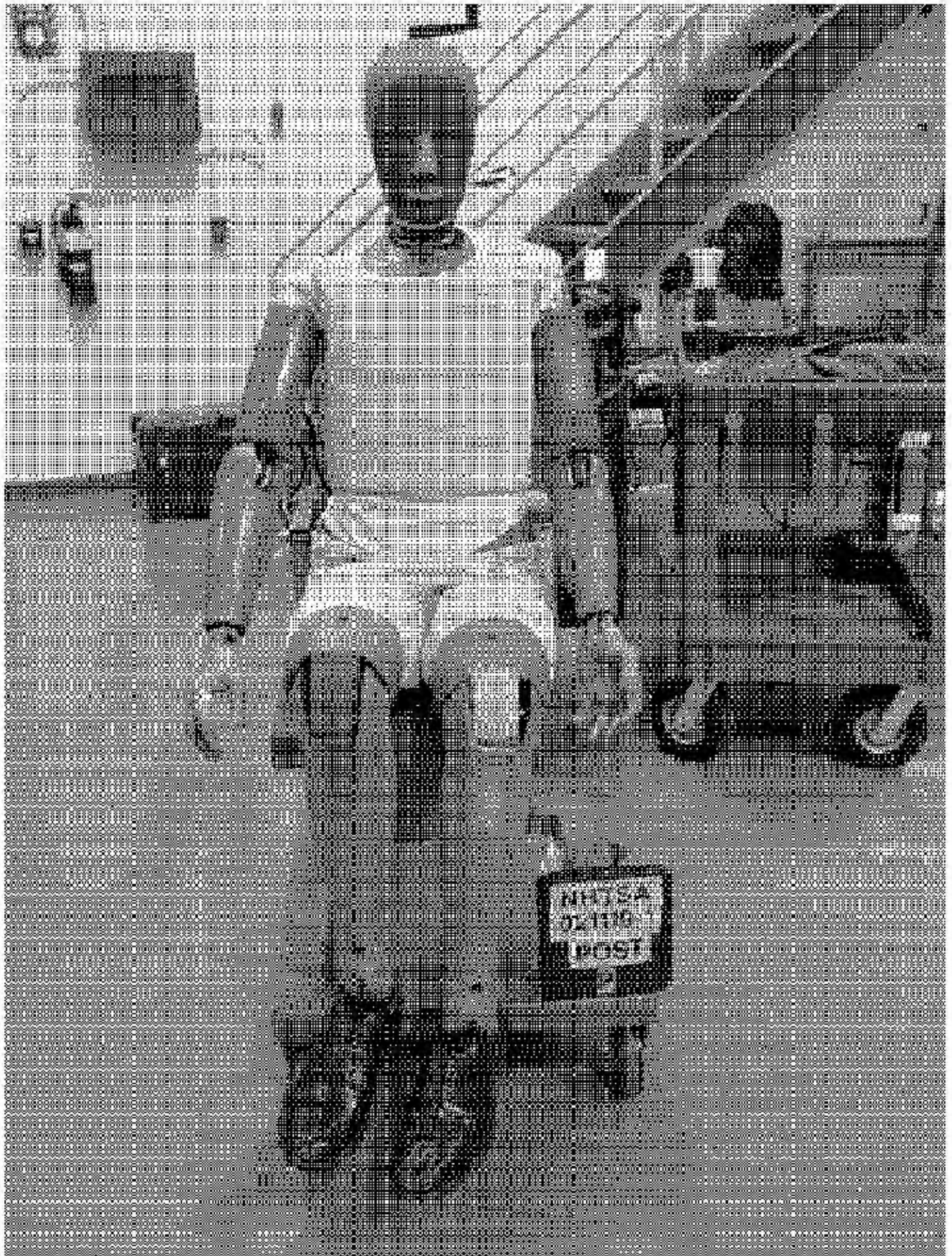


Image 53 Post-Test Passenger Dummy View





Image 54 Post-Test Passenger Dummy Head Contact - View 1





Image 55 Post-Test Passenger Dummy Head Contact - View 2

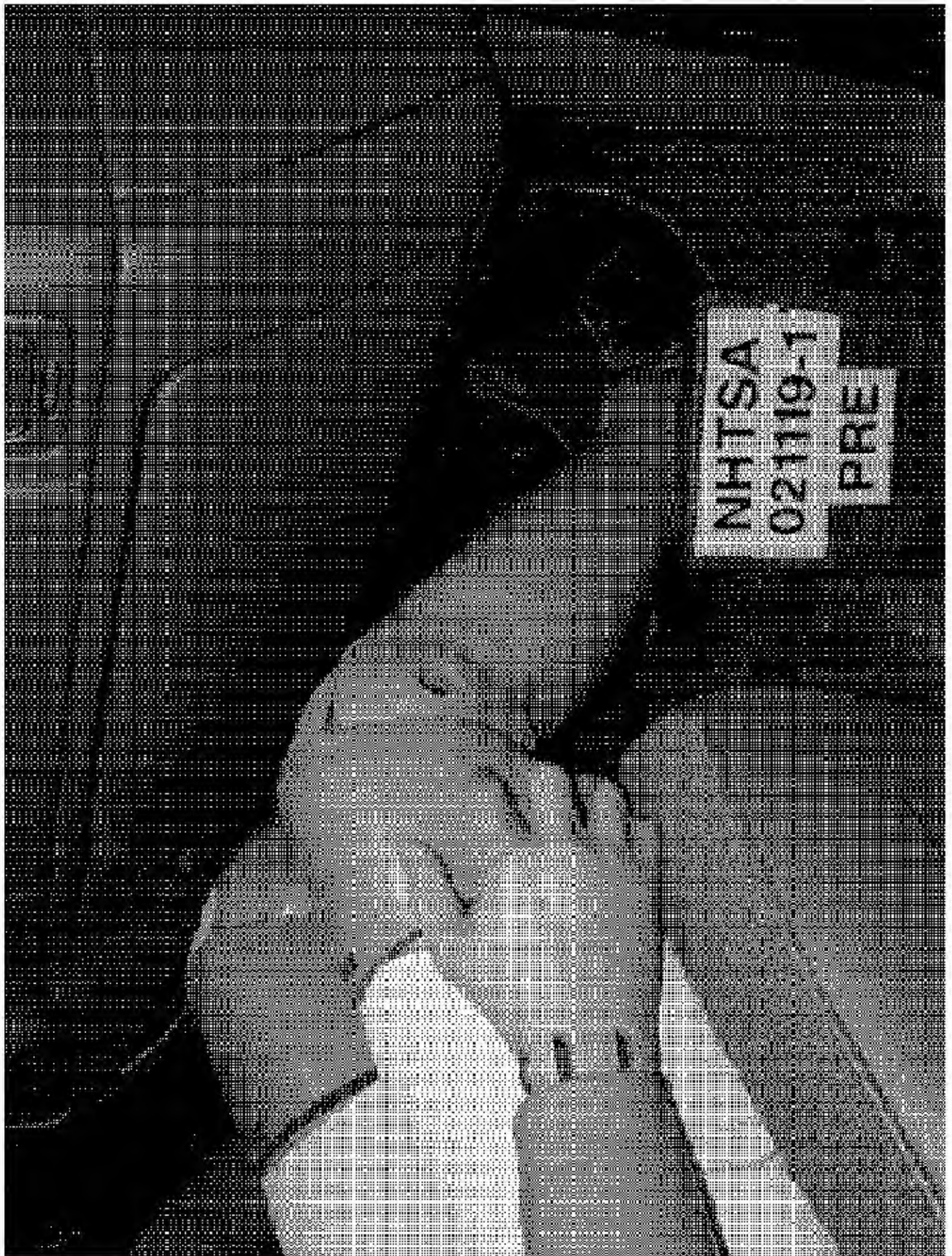


Image 56 Pre-Test Passenger Dummy Knee Bolster View





Image 57 Post-Test Passenger Dummy Knee Contact - View 1



Image 58 Post-Test Passenger Dummy Knee Contact - View 2



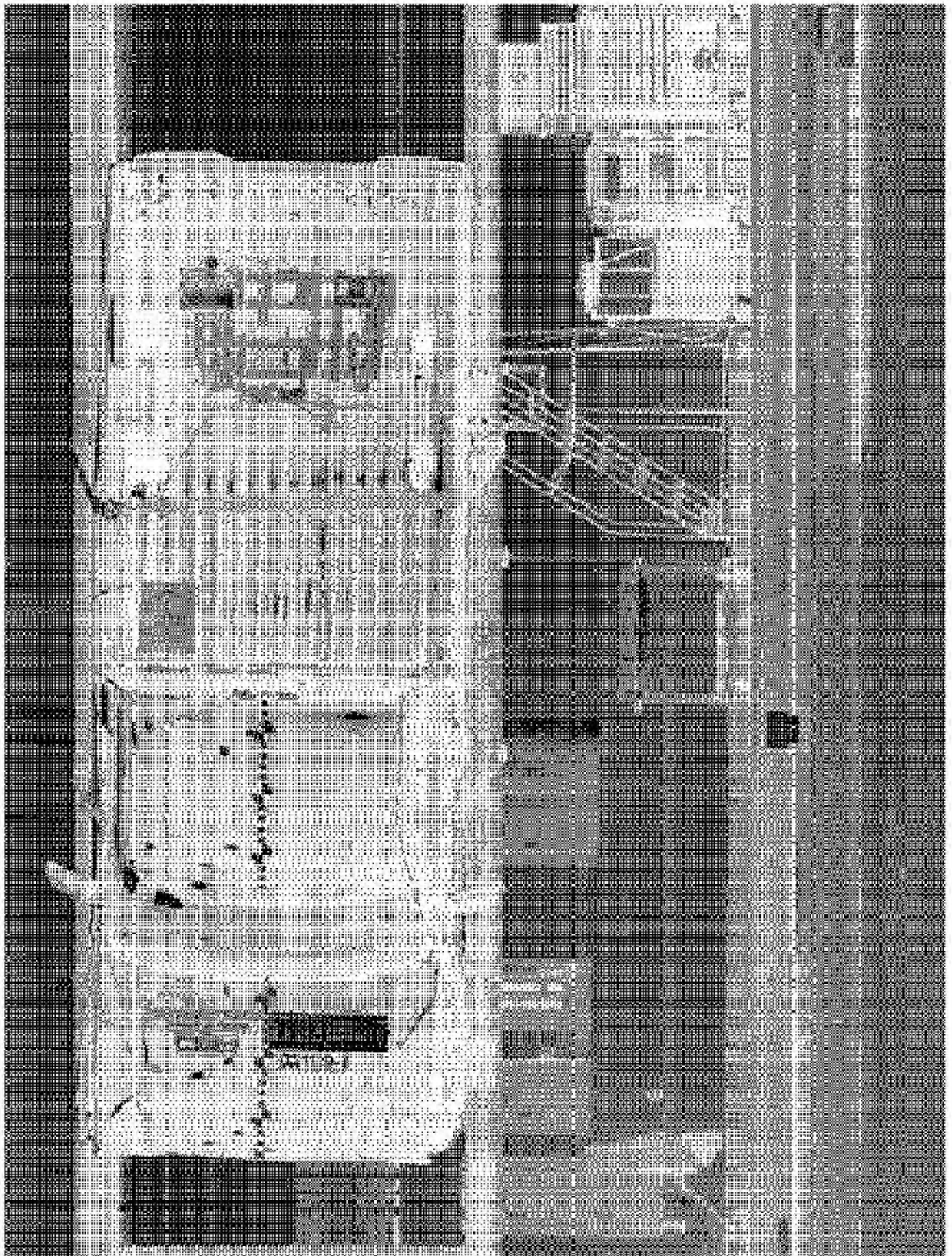


Image 59 Post-Test Vehicle on Static Rollover Device - 90° View





Image 60 Pre-Test Vehicle Ballast View



MFD BY GENERAL MOTORS

GVWR

GAUGE F12

2903KG(6400LB)

1429KG(3150LB)

THIS VEHICLE CONFORMS TO ALL APPLICABLE U.S. FEDERAL MOTOR  
VEHICLE SAFETY STANDARDS IN EFFECT ON THE DATE OF  
MANUFACTURE SHOWN ABOVE

1GCEC14X13Z131545

TYPE: TRUCK

MODEL: C1500

CPX TIRE SIZE SPEED RIG

RIM

COLD TIRE PRESSURE

TIRE

P235/75R16

S

16X6.5J

240KPA(35PSI)

RH

P235/75R16

S

16X6.5J

240KPA(35PSI)

SPA

P235/75R16

S

16X6.5J

240KPA(35PSI)

SEE OWNER'S MANUAL 11 FOR MORE INFORMATION.

F 336  
T 1557

Image 61 Pre-Test Vehicle Certification and Recommended Tire Pressure Label View



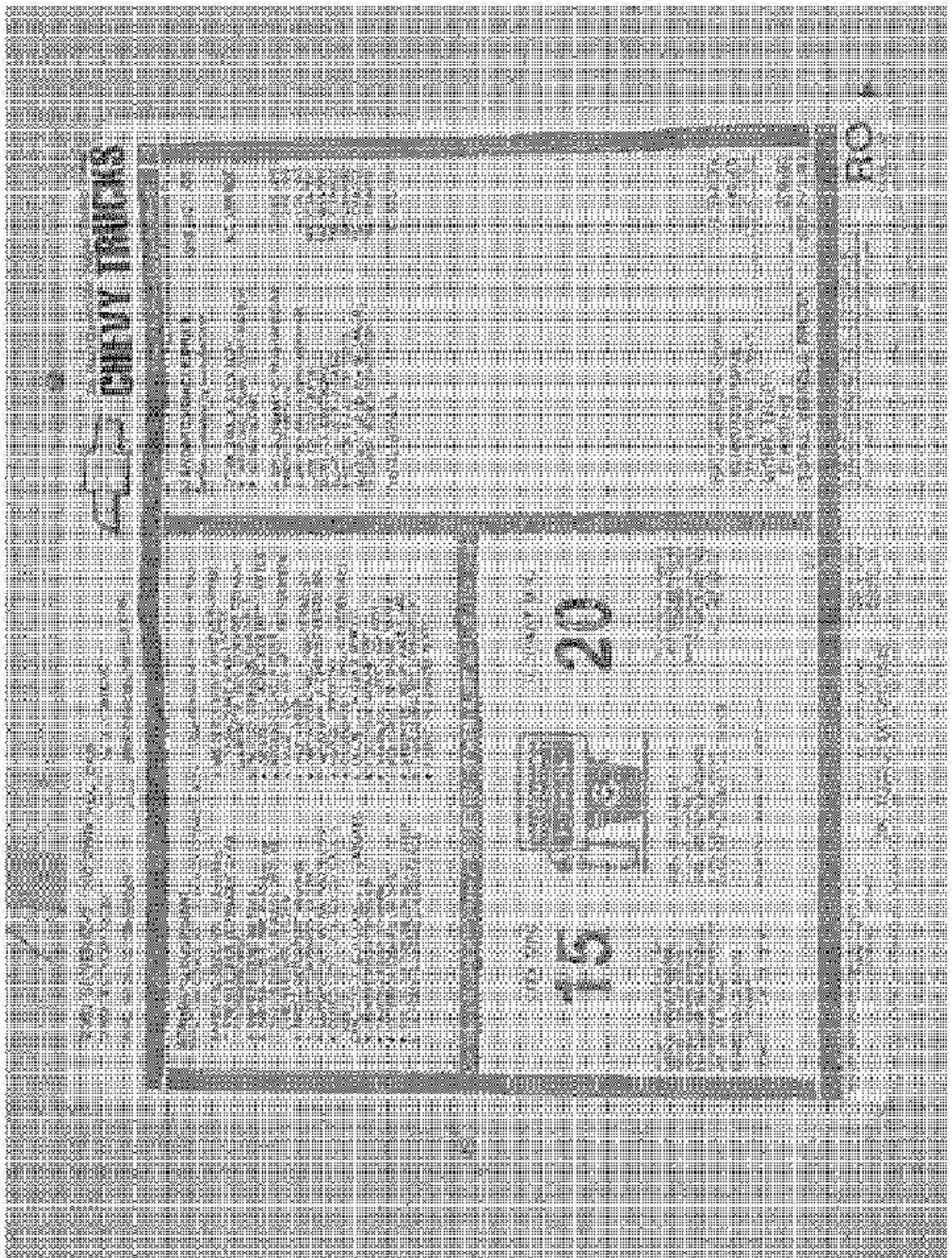


Image 62 Pre-Test Vehicle Window Sticker



## Appendix A

### Test Equipment List and Calibration Information

Dummy 229n Type HYBRID III SOUTH Description NHLSA - 229n HYBRID III SOUTH CAL DUJ 4-14-02 (DKS 11-18-02)211

Chsname	Location	Model	Name	Manufacturer	Sens./mV/V/Hz	Fulscale	Caldate	Pos Output	Flip
HEDXG	Head Accel X	7231C	GB86	Endevco	0.01969	g	750	11/14/02 Rwd	1
HEDYG	Head Accel Y	7231C	GB77	Endevco	0.01926	g	750	11/14/02 Lft	1
HEDZG	Head Accel Z	7231C	A54F	Endevco	0.01981	g	750	11/14/02 Up	1
NEKXF	Neck Force X	1716A	1716A-1222-FX	Denton	0.00019427	N	8896.4	11/14/02 Hd Fl/Cst Rt	1
NEKYF	Neck Force Y	1716A	1716A-1222-FY	Denton	0.000180492	N	8896.4	11/14/02 Hd Lf/Cst Rt	0
NEKZF	Neck Force Z	1716A	1716A-1222-FZ	Denton	0.000099943	N	13344.6	11/14/02 Hd Up/Cst Du	0
NEKXM	Neck Moment X	1716A	1716A-1222-MX	Denton	0.005983009	N-m	282.5	11/14/02 Rtlar to Rt Shld	1
NEKYM	Neck Moment Y	1716A	1716A-1222-MY	Denton	0.006140531	N-m	282.5	11/14/02 Cln to Strmm	0
NEKZM	Neck Moment Z	1716A	1716A-1222-MZ	Denton	0.008429027	N-m	282.5	11/14/02 Cln to Lt Shld	0
CSTXG	Chest Accel X	7231C	C14135	Endevco	0.02741	g	750	11/14/02 Fwd	0
CSTYG	Chest Accel Y	7231C	C14317	Endevco	0.02739	g	750	11/14/02 Lft	1
CSTZG	Chest Accel Z	7231C	C14341	Endevco	0.0234	g	750	11/14/02 Down	0
CSTXD	Chest Deflection X	14CB1-2847	14CB1-2847-229	Servo	1.1375	mm	100	11/18/02 Stimul Away from Spn	0
LPMZF	Left Femur Force Z 603	2430T	2430T-901	GSE	0.0940071249	N	15344.7	11/14/02 Knee Fd/Pel Rr	0
RPMZF	Right Femur Force Z 744	2430T	2430T-809	GSE	0.0940071113	N	15344.7	11/14/02 Knee Fd/Pel Rr	0

A 2

021119-1

Dummy 230n Type HYBRID III 501FL Description NIFUSA - 230n HYBRID III 50TH, CAL DATE 11-14-02 (DES 11-18-02)(21)

Chrname	Location	Model	Name	Manufacturer	Sens,mV/V/Hz	Fullscale	Caldate	Pos Output	Wtip
HEDXC	Head Accel X	7231C	AD4H9	Endevco	0.01992	g	11/14/02	Rear	1
HEDYG	Head Accel Y	7231C	AD4J7	Endevco	0.01974	g	11/14/02	Left	1
HEDZG	Head Accel Z	7231C	AD4J8	Endevco	0.01942	g	11/14/02	Up	1
NEKXP	Neck Force X	1716	1716-0235-FX	Denton	0.000191999	N	11/14/02	Mid Full Ext Rt	1
NEKYP	Neck Force Y	1716	1716-0235-FY	Denton	0.000185468	N	11/14/02	Mid Full Ext Rt	0
NEKZF	Neck Force Z	1716	1716-0235-FZ	Denton	0.000093686	N	11/14/02	Mid Full Ext Da	0
NEKXM	Neck Moment X	1716	1716-0235-MX	Denton	0.005842832	N-m	11/14/02	Rt Tor to Rt Shld	1
NEKYM	Neck Moment Y	1716	1716-0235-MY	Denton	0.005910688	N-m	11/14/02	Chin to Strum	0
NEKZM	Neck Moment Z	1716	1716-0235-MZ	Denton	0.008562124	N-m	11/14/02	Chin to Lt Shld	0
CSTXC	Chest Accel X	7231C	ACTR4	Endevco	0.01976	g	11/14/02	Feet	0
CSTYG	Chest Accel Y	7231C	ACTF4	Endevco	0.01922	g	11/14/02	Left	1
CSTZG	Chest Accel Z	7231C	ACTW0	Endevco	0.01972	g	11/14/02	Down	0
CSTXD	Chest Deflection X	14CB1-2847	85427-1	Servo	1.1347	mm	11/18/02	Strum Away From Spn	0
LFMZF	Left Femur Force Z 60	2430T	2430T-984	GSLB	0.000071646	N	11/14/02	Knee Full Ext Rt	0
RFMZF	Right Femur Force Z 28	2430T	2430T-985	GSLB	0.000070688	N	11/14/02	Knee Full Ext Rt	0

A 13

021119-1

# Channel Report

11/19/2002 10:13:30 AM

Name of Test 021119-1

System MENDAC

Name of DAU DAUC

Chan.#	Sensor #	Mnemonic	Description	Dir.	Range	Pol.	Cal.	Group	Mfg.	Model
0001	EVINT	SYNCC	SYNCC		5.12	-	10/15/2002	OK	-1	ERC
0002	AD419	HEDXG1	Driv. Head Accel X	Rear	401.60642	-	11/14/2002	OK	230n	Endevco
0003	AD417	HEDYG1	Driv. Head Accel Y	Left	399.03359	-	11/14/2002	OK	230n	Endevco
0004	AD418	HEDZG1	Driv. Head Accel Z	Top	399.46322	-	11/14/2002	OK	230n	Endevco
0005	1716-0235-FX	NEKXF1	Driv. Neck Force X	Mid	888.9351	-	11/14/2002	OK	230n	Denton
0006	1716-0235-FY	NEKYF1	Driv. Neck Force Y	Hd	890.51097	-	11/14/2002	OK	230n	Denton
0007	1716-0235-FZ	NELZF1	Driv. Neck Force Z	Hd	13329.424	-	11/14/2002	OK	230n	Denton
0008	1716-0235-MX	NEKXM1	Driv. Neck Moment X	Rt Ear	282.67335	-	11/14/2002	OK	230n	Denton
0009	1716-0235-MY	NEKYM1	Driv. Neck Moment Y	Chn	282.18741	-	11/14/2002	OK	230n	Denton
0010	1716-0235-MZ	NEKZM1	Driv. Neck Moment Z	Chn	282.15881	-	11/14/2002	OK	230n	Denton
0011	ACTR4	CSTXG1	Driv. Chest Accel X	Foot	398.62971	-	11/14/2002	OK	230n	Endevco
0012	ACTT4	CSTYG1	Driv. Chest Accel Y	Left	397.59578	-	11/14/2002	OK	230n	Endevco
0013	ACTW0	CSTZG1	Driv. Chest Accel Z	Down	399.43828	-	11/14/2002	OK	230n	Endevco
0014	85427-1	CSTXD1	Driv. Chest Deflection X	Strain	100.27124	-	11/18/2002	OK	230n	Servo
0015	2430T-984	LPMZ1	Driv. Left Femur Force Z 60	Knee	13332.550	-	11/14/2002	OK	230n	GSE
0016	2430T-985	RPMZ1	Driv. Right Femur Force Z 28	Knee	13354.848	-	11/14/2002	OK	230n	GSE
0017	GB86	HEDXG2	Pass. Head Accel X	Rwd	400.04688	-	11/14/2002	OK	230n	Endevco
0018	GB77	HEDYG2	Pass. Head Accel Y	LD	407.78171	-	11/14/2002	OK	230n	Endevco
0019	A54F	HEDZG2	Pass. Head Accel Z	Up	397.62357	-	11/14/2002	OK	230n	Endevco
0020	1716A-1222-FX	NEKXF2	Pass. Neck Force X	Hd	890.37408	-	11/14/2002	OK	230n	Denton
0021	1716A-1222-FY	NEKYF2	Pass. Neck Force Y	Hd	888.0297	-	11/14/2002	OK	230n	Denton
0022	1716A-1222-FZ	NEKZF2	Pass. Neck Force Z	Hd	13340.937	-	11/14/2002	OK	230n	Denton
0023	1716A-1222-MX	NEKXM2	Pass. Neck Moment X	Rt Ear	282.42795	-	11/14/2002	OK	230n	Denton
0024	1716A-1222-MY	NEKYM2	Pass. Neck Moment Y	Chn	282.64546	-	11/14/2002	OK	230n	Denton
0025	1716A-1222-MZ	NEKZM2	Pass. Neck Moment Z	Chn	282.52316	-	11/14/2002	OK	230n	Denton
0026	C14135	CSTXG2	Pass. Chest Accel X	Foot	397.43221	-	11/14/2002	OK	230n	Endevco
0027	C14317	CSTYG2	Pass. Chest Accel Y	LD	397.72241	-	11/14/2002	OK	230n	Endevco
0028	C14341	CSTZG2	Pass. Chest Accel Z	Down	397.82439	-	11/14/2002	OK	230n	Endevco
0029	14CB1-2847-229	CSTXD2	Pass. Chest Deflection X	Strain	100.02442	-	11/18/2002	OK	230n	Servo
0030	2430T-901	LPMZ12	Pass. Left Femur Force Z 603	Knee	13332.218	-	11/14/2002	OK	230n	GSE

021119-1



# Channel Report

0031 2430T-002  
0032 341089

RFMZT2  
LSXXGT

Pass. Right Femur Force 2 744  
LEFT REAR SEAL

Knee  
RR 13336.494  
1015.7319 g

1 11/14/2002  
- 6/4/2002

OK 229n  
OK -1

GSE  
Endevco

2430T  
3264-2000TYZ

11/16/2002 10:13:30 AM

# Channel Report

11/19/2002 10:13:30 AM

Name of DAU DAU12

System MINIDAU

Name of Test 021119-1

Chan.#	Sensor #	Mnemonic	Description	Dir.	Range	Pol.	Cal.	Group	Mfg.	Model
0001	J41087	LSXYG1	LEFT REAR SEAT	LT	1023.2918	-	6/6/2002	OK	Endevco	7264-2000TZ
0002	P23985	RSXXG1	RIGHT REAR SEAT	FWD	984.57751	+	9/4/2002	OK	Endevco	7264C-2K-2-180
0003	P23823	RSXYG1	RIGHT REAR SEAT	RT	1004.9264	+	9/4/2002	OK	Endevco	7264C-2K-2-180
0004	J35791	TENXG1	TOP OF ENGINE X-AXIS	FWD	1520.5511	+	10/31/2002	OK	Endevco	7264-2000TZ
0005	J36226	BENXG1	BOTTOM OF ENGINE X-AXIS	FWD	1500.3531	+	9/10/2002	OK	Endevco	7264-2000TZ
0006	J11642	RFCXG1	RIGHT FRONT BRAKE	FWD	1025.0045	+	11/5/2002	OK	Endevco	7264-2000T
0007	10017	LTCXG1	LEFT FRONT BRAKE	RR	986.51252	-	11/5/2002	OK	Endevco	7264-2000T
0008	ACC01	DPCXG1	INSTRUMENT PANEL TOP	RR	1019.3923	-	11/5/2002	OK	Endevco	7264-2000TZ
0009	10084	RDKZG1	REAR DECK Z-AXIS	UP	982.81984	-	11/5/2002	OK	Endevco	7264-2000TZ

# Shunt Measurement before Test

Name of Test 021119-1

2002 11-19 11:15:11

DAU	Sensor	Channel	Shunt 1 (+)			Shunt 2 (-)			Shunt 3 (+) [K3600 only:]			Shunt 4 (-) [K3600 only:]		
			Reference Voltage /	Shunt Value /	Out Rang	Reference Voltage /	Shunt Value /	Out Rang	Reference Voltage /	Shunt Value /	Out Rang	Reference Voltage /	Shunt Value /	Out Rang
DAUC	EVENT	0001												
DAUC	AD4H9	0002	3.100	3.114	No									
DAUC	AD4H7	0003	3.100	3.129	No									
DAUC	AD4J8	0004	3.100	3.120	No									
DAUC	1716-0235-FX	0005	3.700	3.707	No									
DAUC	1716-0235-FY	0006	3.700	3.704	No									
DAUC	1716-0235-FZ	0007	3.700	3.852	Yes									
DAUC	1716-0235-MX	0008	3.700	3.720	No									
DAUC	1716-0235-MY	0009	3.700	3.716	No									
DAUC	1716-0235-MZ	0010	3.700	3.659	No									
DAUC	ACTH4	0011	3.100	3.116	No									
DAUC	ACTH4	0012	3.100	3.126	No									
DAUC	ACTW0	0013	3.100	3.141	No									
DAUC	85427-1	0014	5.000	3.827	Yes									
DAUC	2430T-984	0015	3.700	3.722	No									
DAUC	2430T-985	0016	3.700	3.732	No									
DAUC	GB86	0017	3.100	3.163	Yes									
DAUC	GB77	0018	3.100	3.151	No									
DAUC	A54F	0019	3.100	3.148	No									
DAUC	1716A-1222-F	0020	3.700	3.710	No									
	X													
DAUC	1716A-1222-F	0021	3.700	3.712	No									
	Y													
DAUC	1716A-1222-F	0022	3.700	3.654	No									
	Z													
DAUC	1716A-1222-M	0023	3.700	3.710	No									
	X													
DAUC	1716A-1222-M	0024	3.700	3.713	No									
	Y													

DAU	Sensor	Channel	Shunt 1 (+)			Shunt 2 (-)			Shunt 3 (+) [K3600 only]			Shunt 4 (-) [K3600 only]		
			Reference Voltage	Shunt Value	Out Rang	Reference Voltage	Shunt Value	Out Rang	Reference Voltage	Shunt Value	Out Rang	Reference Voltage	Shunt Value	Out Rang
DAUC	1716A-1222-M Z	0025	3.700	3.663	No									
DAUC	C14135	0026	3.100	3.134	No									
DAUC	C14317	0027	3.100	3.134	No									
DAUC	C14341	0028	3.100	3.138	No									
DAUC	14C301-2847-2 29	0029	5.000	3.207	Yes									
DAUC	2430T-901	0030	3.700	3.698	No									
DAUC	2430T-902	0031	3.700	3.693	No									
DAUC	J41089	0032	3.000	2.847	Yes									
DAUD	J41087	0001	3.000	2.700	Yes									
DAUD	P23985	0002	3.000	3.157	Yes									
DAUD	P23823	0003	3.000	3.159	Yes									
DAUD	J35701	0004	3.000	2.785	Yes									
DAUD	J36236	0005	3.000	3.234	Yes									
DAUD	J11642	0006	3.000	2.803	Yes									
DAUD	10017	0007	3.000	2.797	Yes									
DAUD	AC001	0008	3.000	2.607	Yes									
DAUD	10084	0009	3.000	2.684	Yes									



# Shunt Measurement after Test

Name of Test 021119-1

2002-11-19 11:28:16

DAU	Sensor	Channel	Shunt 1 (+)		Shunt 2 (-)		Shunt 3 (+) JK3600 only!!		Shunt 4 (-) JK3600 only!!	
			Reference Voltage /	Shunt Value /	Out Rang	Reference Voltage /	Shunt Value /	Out Rang	Reference Voltage /	Shunt Value /
DAUC	EVENT	0001								
DAUC	AD4119	0002	3.100	3.114	No					
DAUC	AD417	0003	3.100	3.129	No					
DAUC	AD418	0004	3.100	3.119	No					
DAUC	1716-0235-FX	0005	3.700	3.707	No					
DAUC	1716-0235-FY	0006	3.700	3.703	No					
DAUC	1716-0235-FZ	0007	3.700	3.832	Yes					
DAUC	1716-0235-MX	0008	3.700	3.720	No					
DAUC	1716-0235-MY	0009	3.700	3.716	No					
DAUC	1716-0235-MZ	0010	3.700	3.659	No					
DAUC	ACTR4	0011	3.100	3.126	No					
DAUC	ACT14	0012	3.100	3.126	No					
DAUC	ACTW0	0013	3.100	3.140	No					
DAUC	85427-1	0014	5.000	3.869	Yes					
DAUC	2430T-984	0015	3.700	3.724	No					
DAUC	2430T-985	0016	3.700	3.732	No					
DAUC	GB86	0017	3.100	3.162	Yes					
DAUC	CTB77	0018	3.100	3.150	No					
DAUC	A54F	0019	3.100	3.148	No					
DAUC	1716A-1222-F	0020	3.700	3.710	No					
	X									
DAUC	1716A-1222-F	0021	3.700	3.712	No					
	Y									
DAUC	1716A-1222-F	0022	3.700	3.654	No					
	Z									
DAUC	1716A-1222-M	0023	3.700	3.709	No					
	X									
DAUC	1716A-1222-M	0024	3.700	3.714	No					
	Y									

		Shunt 1 (+)				Shunt 2 (-)				Shunt 3 (1) [K36] only				Shunt 4 (-) [K3600] only			
DAU	Sensor	Channel	Reference Voltage /	Shunt Value /	Out Rang	Reference Voltage /	Shunt Value /	Out Rang		Reference Voltage /	Shunt Value /	Out Rang		Reference Voltage /	Shunt Value /	Out Rang	
DAUC	1716A-1222-M Z	0025	3.700	3.663	No												
DAUC	C14135	0026	3.100	3.134	No												
DAUC	C14317	0027	3.100	3.134	No												
DAUC	C14341	0028	3.100	3.137	No												
DAUC	14C11-2847-2 29	0029	5.000	3.215	Yes												
DAUC	2430T-901	0030	3.700	3.628	No												
DAUC	2430T-902	0031	3.700	3.693	No												
DAUC	141089	0032	3.000	2.845	Yes												
DAUD	141087	0001	3.000	2.697	Yes												
DAUD	P23985	0002	3.000	3.157	Yes												
DAUD	P23823	0003	3.000	3.159	Yes												
DAUD	J35701	0004	3.000	99.990	Yes												
DAUD	J36226	0005	3.000	3.237	Yes												
DAUD	111642	0006	3.000	2.794	Yes												
DAUD	10017	0007	3.000	2.787	Yes												
DAUD	ACC01	0008	3.000	2.603	Yes												
DAUD	10084	0009	3.000	2.662	Yes												